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**AFGWC
DIAL-IN SUBSYSTEM (AFDIS)
SOFTWARE USERS MANUAL
VERSION 4.0**

by

Sterling Software

Information Technology Division
1404 Fort Crook Road South
Bellevue NE 68005-2969



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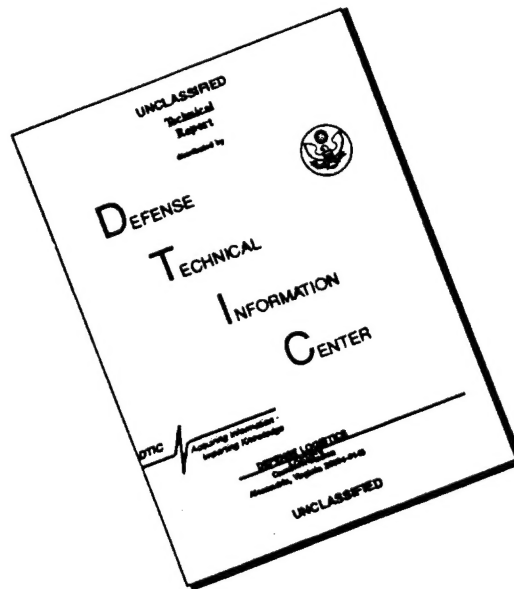
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**AIR FORCE GLOBAL WEATHER CENTRAL
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Offutt Air Force Base, Nebraska 86113-4039**

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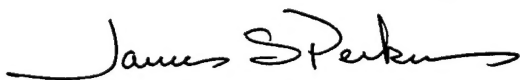


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FOR THE COMMANDER



JAMES S. PERKINS
Scientific and Technical Information
Program Manager
2 August 1996

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PREFACE

This users handbook describes the Air Force Global Weather Central's (AFGWC's) Dial-In Subsystem software that allows remote access (by small computer and modem) to certain applications of AFGWC's Satellite Data Handling System (SDHS). This handbook provides step-by-step instructions for installing and using the software required for access to SDHS. The software and this document was prepared by Sterling Software, Information Technology Division, of Bellevue, Neb., under contract Number F116223-92-D00003, CDRL Sequence Number A010.

AFDIS 4.0 contains substantial improvements and upgrades. The main focus of these changes was to make the AFDIS more user friendly. The users interface was redesigned to include toolbars and help text for all menus. The redraw rate of the screen was improved and an autoisopleth/plot button with predefined values (the user can change as needed) was added. Other changes include automatic downloading of future versions of the software, online update of passwords, an expanded hyperlink help text button, and thumbnail icons of graphic interchange format (gif) and image (img) files. AFDIS 4.0 supports three versions of ProCom Plus (2.01 for DOS, 2.11 and 3.0 for Windows) and is Windows 95 compatible.

NOTE: If you are unable to download AFDIS 4.0, or require diskettes, contact AFGWC/DOO, DSN 271-5985 (Commercial 402-294-5985), or write AFGWC/DOO, 106 Peacekeeper Drive, Offut AFB NE 86113-4039.

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FOR THE
AIR FORCE GLOBAL WEATHER CENTRAL (AFGWC)
DIAL-IN SUBSYSTEM (AFDIS)
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1 SCOPE

1.1 Identification. This Software User's Manual (SUM), document 151012, describes user interaction with the Air Force Global Weather Central (AFGWC) Dial-In Subsystem (AFDIS) Remote User Software of the Satellite Data Handling System (SDHS). This SUM was developed for AFDIS version 4.0 and includes materials for the Microsoft (MS) Windows 3.1, Windows 3.11, and Windows 95 operating environments. MS Windows is a registered trademark of Microsoft Corporation. AFDIS version 3.21 is available for the UNIX[®] operating environment.

1.2 System overview. The AFDIS consists of the AFDIS Server and the AFDIS Client. The AFDIS Server is located at AFGWC, Offutt AFB, Nebraska, and interacts with SDHS to request, retrieve, store, and forward data from AFGWC to the AFDIS Client. The AFDIS Client resides on a remote user platform (Personal Computer (PC) or UNIX workstation), and permits the user to select, retrieve, and display weather products from the AFDIS Server.

1.2.1 AFDIS Server. The AFDIS Server consists of a Digital Equipment Corporation (DEC) Virtual Address Extension (VAX) processor, a PC, and a high resolution scanner. The AFDIS Server will support at least 30 concurrent users. The VAX processor connects to SDHS and provides the capability to retrieve, process, and transmit meteorological data residing on SDHS, including meteorological charts, meteorological grid data, Terminal Aerodrome Forecasts (TAFs), weather observations (OBs), meteorological bulletins, and satellite imagery. A high resolution scanner permits hard copy material to be scanned and transferred to the AFDIS Server. Any hard copy material, e.g., pictures, bulletins, imagery, documents, can be scanned and made available to the AFDIS user.

1.2.2 AFDIS Client. The AFDIS Client consists solely of software and executes on a personal computer (PC) provided by the user. The AFDIS provides a user interface to select, retrieve, display, and manipulate AFGWC meteorological products. Using a Graphical User Interface (GUI), AFDIS users interact with dialogs, list boxes, buttons, menubars, toolbars, and text entries. The AFDIS validates selections and eliminates invalid requests prior to transmission. After selecting AFGWC weather products, the user enters a user name and password and sends the product request to AFGWC.

1.3 Document overview. This document describes the installation and operation of AFDIS. Material is provided for the first time user covering step-by-step installation, operation examples, and GUI terminology. Section 1 contains an AFDIS overview and document overview. Section 2 identifies referenced documents.

UNIX is a registered trademark in the United States and other countries, licensed exclusively through X/Open Company Limited. X/Open is a trademark of X/Open Company Limited in the UK and other countries.

Section 3 describes AFDIS operation in detail and discusses advanced topics. Section 4 contains system error messages and error resolution. Section 5 contains a list of acronyms and abbreviations. Appendix A describes AFDIS installation procedures for the MS Windows environment. Appendix B contains an example of an AFDIS user session. Appendix C contains an MS Windows 3.1 overview. Appendix D contains a listing of vector graphic products currently available from AFGWC. Appendix E contains AFDIS modem settings for PROCOMM PLUS. Appendix F lists the overlay/grid data item mnemonics. Appendix G contains the Paint Shop Pro corporate license.

1.3.1 Getting started. It is suggested that the following sections be used as a guide for getting started. First, read the hardware/software requirements in 3.1.1 and 3.1.2. Second, read and follow the installation procedures as presented in appendix A. Third, use the AFDIS Example Session as outlined in appendix B. After following the Example Session, use this manual as a reference for the more complex operations.

Note: Inexperienced computer users may want to review the MS Window information in appendix C before reading the AFDIS Example Session.

1.3.2 Conventions. This document uses visual cues and uniform conventions for text formats so the user may locate and interpret information easily. Examples of these conventions follow.

- a. Visual Cues. The following typographical conventions appear throughout this manual:

Format	Presents
bold	Bold text must be typed exactly as it appears. For example, if asked to type <code>dir /AFDIS</code>, type all the bold characters exactly as they are printed, including blank spaces and punctuation.
ALL CAPITALS	Uppercase entries list directory names, filenames, and acronyms, e.g., ASNH
<i>italic</i>	<i>Italics are used to identify place holders for information which must be provided by the user. For example, if asked to type filename, type the actual filename instead of the word shown in italicized type.</i>

- b. Keyboard Formats. Key combinations and key sequences appear in the following formats:

Format	Meaning
KEY1+KEY2	A plus sign (+) between key names means to press and hold down the first key while pressing the second key. For example, "press Alt+Esc" means to press and hold down the Alt key, then press the Esc key. Then release both keys.
KEY1,KEY2	A comma (,) between key names means to press and release the keys one after the other. For example, "press PF1,X" means to press and release the PF1 key, then press and release the X key.
Enter	Enter can be a direction either to type a selection or to press the Return or Enter key, depending upon the PC keyboard.

2 REFERENCED DOCUMENTS

The following documents of the exact issue shown form a part of this specification to the extent specified herein. In the event of conflict between the documents referenced herein and the contents of this specification, the contents of this specification shall be considered a superseding requirement. Copies of specifications, standards, drawings, and publications required by suppliers in connection with specified procurement functions should be obtained from the contracting agency or as directed by the contracting officer.

2.1 Government documents.

PAMPHLETS:

AFGWC Pamphlet 105-1, Vol. II, 1 March 1991

Functional Description Grid Reference, Model Reference prepared by Aerospace Corporation for AFGWC/SYSM

AFGWC/TN - 79003 Map Projections and Grid Systems for Meteorological Applications, AFGWC, March 1985

2.2 Non-Government documents.

OTHER PUBLICATIONS:

Microsoft MS-DOS User's Guide and Reference for the MS-Disk Operating System (DOS), Version 5.0, Microsoft Corporation

Microsoft Windows Version 3.1, Getting Started with
Microsoft Windows for the Microsoft Windows Operating
System, Microsoft Corporation

Microsoft Windows 95 Introduction, Microsoft Corporation, 1995

Paint Shop Pro (PSP) for Windows User's Guide, v3.0 JASC, Inc.
PROCOMM PLUS v2.01 User Manual for DOS, DataStorm Technologies,
Inc.

PROCOMM PLUS for Windows User Manual, DataStorm Technologies,
Inc.

PROCOMM PLUS for Windows; Windows Aspect Script Language
DataStorm Technologies, Inc.

PROCOMM PLUS User Guide Version 3.0, c. 1992-1995 DataStorm
Technologies, Inc.

Modem Reference Manual for the Telebit T3000 and Worldblazer
Family of Products 90238-01, Telebit Corporation

XV User Manual, Version 3.0, Grasp Laboratory, c. 1993

Sun OS Reference Manual, Sun Microsystems

Documents not available through normal Government stocking
activities may be requested from the Support and Services
contractor.

3 EXECUTION PROCEDURES

3.1 System requirements. This section identifies minimum
hardware and software configurations required to execute AFDIS,
and recommends the most effective hardware and software
configurations.

3.1.1 Hardware.

3.1.1.1 MS-DOS for MS Windows minimum hardware requirements.
The following subparagraph identifies the minimum hardware
required to run AFDIS for the MS Windows environment:

<u>ITEM</u>	<u>MINIMUM REQUIREMENT</u>
Central Processing Unit (CPU)	'486DX, 66 Megahertz (MHz)
Random Access Memory (RAM)	8 Mbytes
Monitor	Video Graphics Adapter (VGA), 640 x 480 resolution graphics, 1 MEG memory

Keyboard	Standard
Hard Disk Drive	20 Mbytes, free space
Floppy Disk Drive	3.5 inch, 1.44 Mbytes (high density)
Mouse	Microsoft compatible
Modem	Hayes compatible, 14,400 baud

NOTE: These minimum requirements should be utilized by users interested only in alphanumeric products (observations, TAFs, weather bulletins), rasterized satellite imagery, and limited rasterized weather charts. Those users wishing to utilize the entire capability and functionality of AFDIS are strongly encouraged to use the recommended hardware requirements as listed in 3.1.1.2. The full functionality of AFDIS is seriously degraded if placed on a '386/'486SX computer.

3.1.1.2 Recommended MS-Windows hardware. Following is a list of the highly recommended hardware to support the MS Windows environment for image processing, high resolution graphics, and concurrent processing:

<u>ITEM</u>	<u>DESCRIPTION</u>
CPU	P5, 100 MHz
RAM Memory	16 Mbytes
Monitor	Super VGA (SVGA), 800 x 600 resolution graphics, 256 color device driver installed
Keyboard	Standard
Hard Disk Drive	1.2 Gbytes
Floppy Disk Drive	3.5 inch, 1.44 Mbytes (high density)
Video Card	Supports SVGA with 2 Mbytes memory
Mouse	Microsoft compatible
Printer	High resolution (600 dots per inch (DPI)) graphics or Hewlett-Packard Laser Jet printer

Modem

Hayes compatible, 14,400 baud rate, with support for both Microcom Networking Protocol (MNP) and V.42 error control and MNP 5 and V.42 bis (bit isochronous) data compression protocols as described in the modem reference manual; MNP is a trademark of Microcom, Inc.

High resolution graphics require appropriate hardware and installed drivers. Excellent displays of satellite imagery and display speed have been demonstrated with SVGA resolution monitors operating with SVGA video cards having one Mbyte of memory. A high speed (i.e., 19200 baud) modem is recommended to reduce data transfer time.

3.1.1.3 Required UNIX hardware. Following is a list of recommended hardware for using the UNIX version of AFDIS version 3.21:

<u>ITEM</u>	<u>DESCRIPTION</u>
CPU	Sparc 2 CPU
Monitor	Sun Model GDM-1962B
Hard Drive	Sun Model 811
Keyboard	Sun Model Type 5
External Tape Drive	150 Mbyte Sun Model 411
Modem	Hayes compatible, 19200 baud rate, with support for both Microcom Networking Protocol (MNP) and V.42 error control and MNP 5 and V.42 bis (bit isochronous) data compression protocols described in the modem reference manual.

3.1.2 Software. This section describes support software required to execute AFDIS. AFDIS version 4.0 will execute only under the MS Windows environment. AFDIS 3.21 is available on request for the UNIX environment.

3.1.2.1 MS Windows environment. MS Windows provides concurrent AFDIS execution with other software applications. AFDIS will operate with MS Windows version 3.1, MS Windows 3.11, or MS Windows 95 and has not been tested with earlier or later

versions, e.g., Windows NT version 4.0. MS Windows 95 is the recommended operating system of choice due to the radically redesigned and improved system memory management. MS-DOS version 5.0 or greater is required to support AFDIS running in a Windows environment.

3.1.2.2 UNIX environment. The Sun OS 4.1.3 environment was used for the development of the AFDIS version 3.21 on the Sun Sparc workstation. Installation, hardware, and operational information is available upon request. Technical support on UNIX environment information is available through the AFDIS Manager DSN 271-5987 (M-F 0730 - 1630L) or the AFGWC Duty Officer (GDO) at Defense Switching Network (DSN) 271-2586 outside normal duty hours.

3.1.2.3 UNIX minimum software requirements. Following is a list of the minimum software required to support the UNIX version of AFDIS:

<u>ITEM</u>	<u>DESCRIPTION</u>
Operating System	Solaris 1.1 Version A
GUI package	X11R5 Xwindows Software
Non-iterative terminal	Expect (Public Domain) control program
Modem Communication Manager	SOFTCOMM, by Microlink Tech.
Command Shell	ZSH
Tool Command Language	TCL - used with Expect
Graphics Interchange Format (GIF) File Displayer	XV Version 3.0, by Grasp Laboratories

3.1.2.4 PROCOMM PLUS. PROCOMM PLUS Version 2.01 for DOS, Version 2.11 or 3.0 for Windows must be installed to support the MS Windows versions of AFDIS. Other versions of PROCOMM PLUS are not compatible.

3.1.2.5 Hard disk caching software. Use of disk caching is not recommended when executing the MS Windows versions of AFDIS. Hard disk caching software conflicts with real-time disk access and may lockup the processor.

3.1.2.6 MS Windows 3.1 Smart Drive conflict. A conflict exists between disk caching software such as MS Windows 3.1 Smart Drive and PROCOMM PLUS. The conflict arises during data transfer when PROCOMM PLUS and Smart Drive compete for the CPU and the hard disk drive. The PROCOMM PLUS vender, DataStorm Technologies Inc, recommends disabling Smart Drive during PROCOMM PLUS operation. Refer to Appendix A, Common Installation and Execution Problems, if PROCOMM PLUS locks up when attempting to retrieve products.

3.1.3 AFDIS and NODDS compatibility. The PROCOMM PLUS software version supplied with earlier versions of the Navy Oceanographic Data Distribution System (NODDS) is not compatible with AFDIS. It is recommended that NODDS version 3.1 or greater be used. Installing AFDIS and NODDS version 3.0 or earlier can cause errors due to conflicts with earlier versions of PROCOMM PLUS communication software.

3.1.3.1 PROCOMM PLUS conflicts. If PROCOMM PLUS is installed into the PCPLUS directory, earlier versions of NODDS, i.e., version 3.0 or lower, will no longer work correctly. To eliminate the conflict with differing PROCOMM PLUS versions, install AFDIS on logical drive C and NODDS on logical drive D. Consult the MS-DOS User's Guide and Reference for more information about creating logical drives.

3.1.3.2 PROCOMM PLUS conflicting error messages. Error messages indicating a PROCOMM PLUS conflict may occur during NODDS or AFDIS execution. These errors are usually the result of an incorrect Aspect file compilation and indicate PROCOMM PLUS version incompatibility. Refer to 3.1.3 and 3.1.3.1 for suggestions to resolve the error condition.

3.1.4 Initialization. There are no initialization steps required prior to executing AFDIS.

3.2 AFDIS execution. AFDIS can be executed from the MS Windows or UNIX environments. The figures used in this SUM were captured from the AFDIS MS Windows version. The UNIX version, AFDIS 3.21, is available on request.

3.2.1 Starting AFDIS. Operating from the MS Windows environment, select the AFDIS icon with either the mouse or by keyboard entry. When AFDIS is activated, the AFDIS Program Options window will appear.

3.2.1.1 Downloadable system files. AFDIS versions 3.21 and 4.0 provide an automatic system file update/notification feature. Product lists and system files are checked against current revisions during every product request. If an out of date product list or system file is encountered, the AFDIS Server will automatically send the revision file. During the data decompression step on the AFDIS Client a message will be displayed indicating the updated product. These messages may be encountered during system startup if a system failure occurred during file transfer.

NOTE: Products lists and system files can only be updated by the AFDIS System Administrator at AFGWC.

3.2.2 Exiting AFDIS. There are several ways to exit AFDIS. From the Program Options window, selecting the File Exit menu option or the toolbar Exit button terminates AFDIS and returns control to the operating environment. Another method is to select the control menu box located in the upper left-hand corner of the Program Options window. Appendix C contains additional information on MS Windows operations and AFDIS.

3.2.3 AFDIS Program Options window. The AFDIS Program Options window is the top level window displayed. Options may be selected by using the drop down menus or toolbar buttons as illustrated in figure 1.

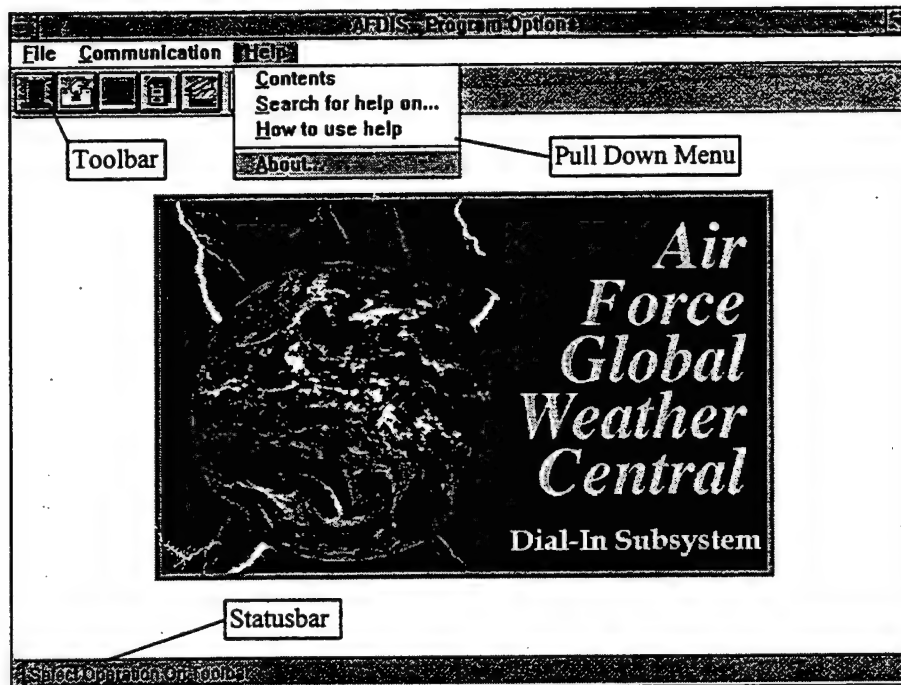


FIGURE 1. AFDIS Program Options Window

3.2.3.1 AFDIS - Program Options File menu. The AFDIS - Program Options File menu provides the options to send product retrievals (requests) or message files, display retrieved products, or manage products and system files.

3.2.3.1.1 File Retrieve menu. Selecting the File Retrieve menu option displays the Product Retrieval window. Refer to 3.2.4 for information about the Product Retrieval window.

3.2.3.1.2 File Display menu. Selecting the File Display menu option displays the Product Display Selection window. Refer to 3.2.9 for information about the Product Display Selection window.

3.2.3.1.3 File Manage menu. Selecting the File Manage menu option displays the Product Manager window. Refer to 3.2.18 for information about the Product Manager window.

3.2.3.1.4 File Exit menu. Selecting the File Exit menu option terminates AFDIS and returns control to the operating system.

3.2.3.2 Communications Configuration menu. Selecting the Communications Configuration menu displays the Communications Configuration window. Refer to 3.2.19 for information about the Communications Configuration window.

3.2.3.3 Help menu. Selecting the Help menu opens the standard dropdown menus relating to help text.

3.2.3.4 AFDIS - Program Options toolbar. The AFDIS - Program Options window contains a toolbar. The toolbar options include: Exit AFDIS, Retrieve Products, Display Products, File Manage, Communications Configuration, and Help buttons. Refer to figure 2.



FIGURE 2. AFDIS - Program Options Toolbar

3.2.4 Product Retrieval window. The Product Retrieval window provides options to create, edit previously stored, or send product request or message files. Menu and toolbar operations are performed on the highlighted file item contained within the list as illustrated in figure 3.

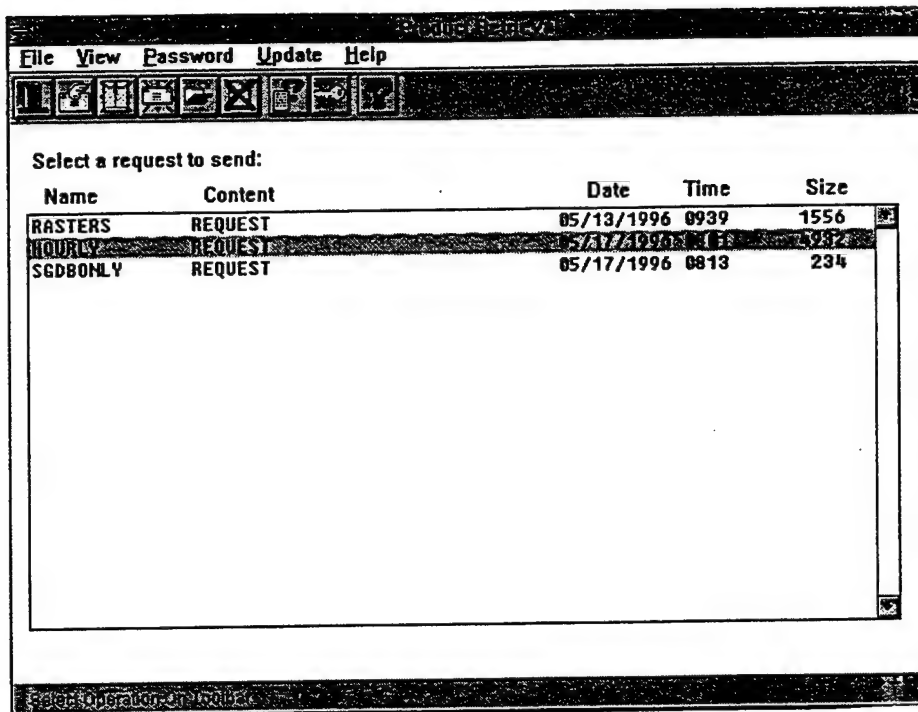


FIGURE 3. Product Retrieval Window

3.2.4.1 Product Retrieval File menu. The Product Retrieval window contains a File menu with options: New, Open, Send, Delete, or Exit.

3.2.4.1.1 File New Request menu. Selecting the File New Request menu creates a new, blank request and displays the Product Selection window. Refer to 3.2.6.5 through 3.2.6.11 for descriptions of how to select or add data to the request. Refer to 3.2.6 for information about the Product Selection window.

3.2.4.1.2 File New Message menu. Selecting the File New Message menu creates a new, blank message and displays the Message Display window. Refer to 3.2.8 for information about the Message Display window.

3.2.4.1.3 File Open menu. Selecting the File Open menu displays either the Product Selection window or the Message Display window depending on the type of file selected. Refer to 3.2.6 or 3.2.8 for information about the Product Selection window or the Message Display window, respectively.

3.2.4.1.4 File Send menu. The File Send option submits the currently selected product request or message file and initiates communication with the AFDIS Server. The Login dialog will appear if and only if the user name and password have not been previously defined during the user session; otherwise the request will continue to be processed. AFDIS will verify that the Communications Configuration settings (refer to 3.2.19) and

request file have been stored. The user name and password can be defined by selecting the Password Set menu option. Refer to appendix A for information about obtaining a user name and password. Only previously saved requests can be submitted as illustrated in figure 4.

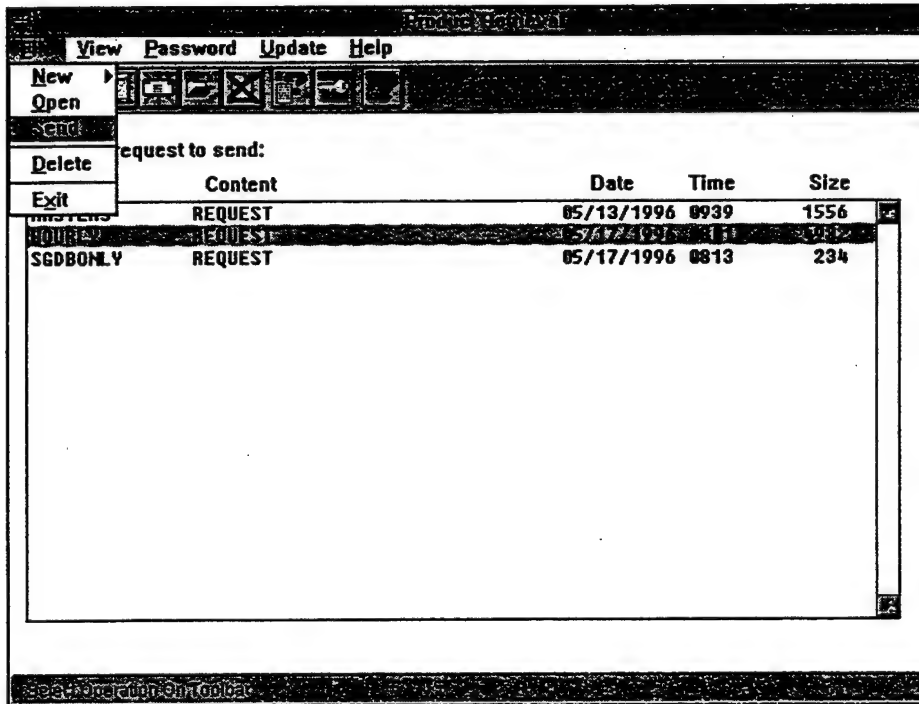


FIGURE 4. Submitting Product Requests

3.2.4.1.4.1 Specifying the user name and password. Using the Product Retrieval Password menu will cause the Login dialog to appear asking for a user name and password as illustrated in figure 5.

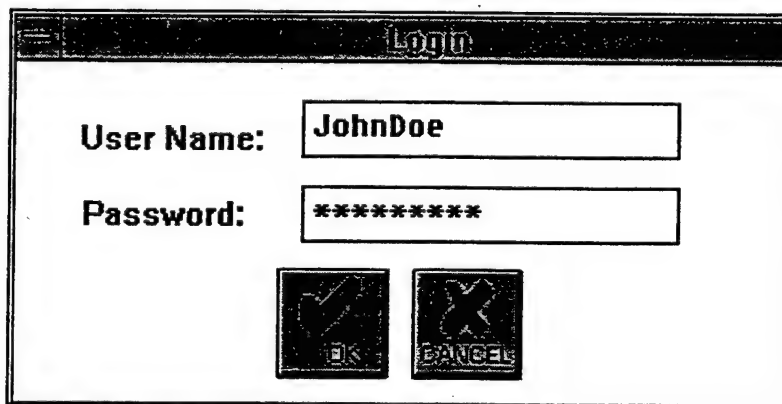


FIGURE 5. User Name and Password Dialog

Enter the user name and press the "Enter" or "Tab" key, or use the mouse to proceed to the password box. Enter the password then press the "Enter" key or select the "OK" button. AFDIS activates the communication software which transfers the request to AFGWC.

3.2.4.1.5 File Delete menu. The File Delete menu option is used to delete the currently selected product request or message file. The Delete File dialog will appear requesting confirmation of the delete as illustrated in figure 6. Clicking the "OK" button will delete the file. Clicking the "Cancel" button returns the user to the Product Retrieval window. To delete multiple requests with a single action, use the AFDIS File Manager.

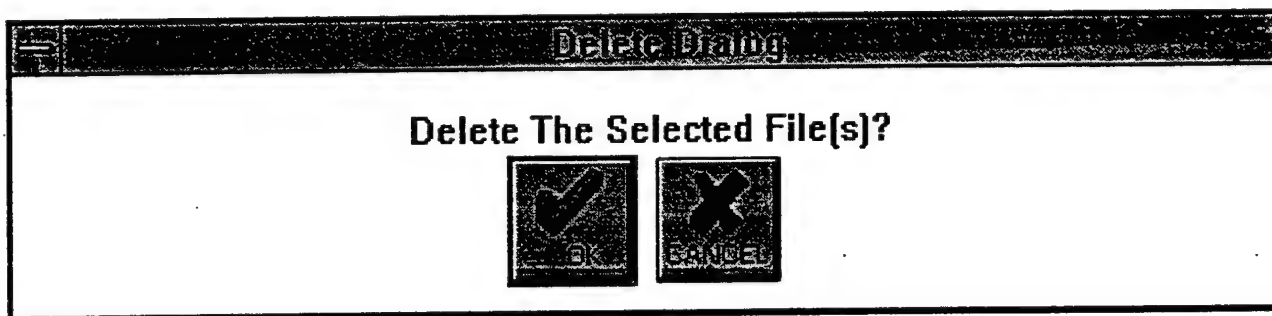
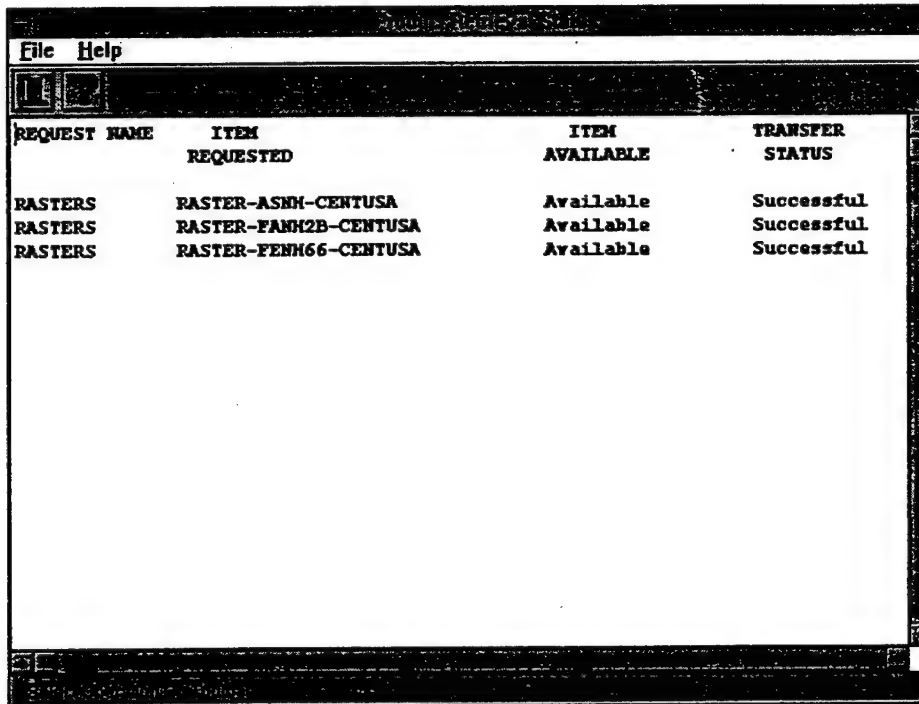


FIGURE 6. Deleting Product Requests

3.2.4.1.6 File Exit menu. Use the File Exit selection to exit the Product Retrieval window and return to the Program Options window.

3.2.4.2 Product Retrieval View Retrieval Results menu. The Product Retrieval View Retrieval Results menu option provides the status of request files. With each request submitted, a status file is returned which contains information on product availability and file transfer status as illustrated in figure 7.



REQUEST NAME	ITEM REQUESTED	ITEM AVAILABLE	TRANSFER STATUS
RASTERS	RASTER-ASHM-CENTUSA	Available	Successful
RASTERS	RASTER-FANM2B-CENTUSA	Available	Successful
RASTERS	RASTER-FENH66-CENTUSA	Available	Successful

FIGURE 7. Product Retrieval Status Window

Only the most recent status for each request file is retained. A subsequent retrieval using the same request file will overwrite the previous status file. Deleting a request deletes the corresponding status file.

Message and mail files do not have status files. This menu option is grayed if either a message or mail file is selected.

3.2.4.2.1 Product Retrieval Status menu. Use the File Exit menu option to exit the Product Retrieval Status window.

3.2.4.2.2 Product Retrieval Status messages. The following is a list of possible status messages:

AFDIS Server Software Down, Try Again In 5 Minutes

Unable to make the phone connection... try again

Did not get commercial PSDN user name prompt... try again

The AFDIS user name prompt was not received... try again

The AFDIS user name prompt was not received... try again
or AFDIS Server Password is incorrect

The transmission to AFDIS was unsuccessful... try again

AFDIS did not respond with a packet request... try again

The USER NAME &/OR PASSWORD specified is not valid on AFDIS

The AFDIS did not return a status file... try again

The AFDIS connection was lost prior to completion... try
again

The AFDIS Server is currently disabled by AFGWC... try again

The AFDIS connection was user terminated... try again

Request Has Not Been Submitted

Unknown error

3.2.4.3 Product Retrieval Password Set menu. The Product Retrieval Password Set menu is used to enter the user name and password for submitting requests to the AFDIS Server.

3.2.4.4 Product Retrieval Update Applications menu. The Product Retrieval Update Applications menu displays the Auto AFDIS Applications Download Dialog. See figure 8.

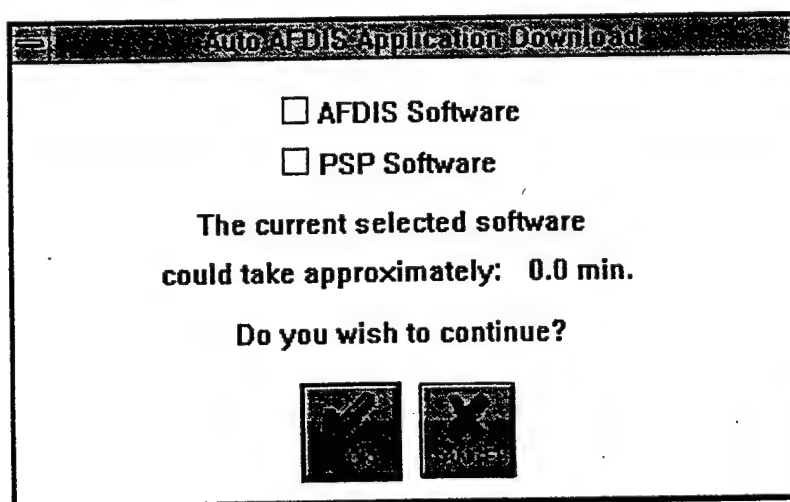


FIGURE 8. Auto AFDIS Applications Download Dialog

When new versions of AFDIS or Paint Shop Pro become available, AFGWC will notify users. An indication of how long the download will take is included in the dialog. Selecting the OK button will download the indicated AFDIS software or Paint Shop Pro update with the next retrieval. Selecting the Cancel button returns the user to the Product Retrieval window.

3.2.4.5 Product Retrieval Help menu. The Product Retrieval Help menu is used to display help text.

3.2.4.5.1 About Box dialog. The About Box dialog lists available phone numbers for help and technical support.

3.2.4.6 Product Retrieval window toolbar. The Product Retrieval window toolbar options include: Exit, Send Request, New Request, New Message, Open Request, Delete Request, Display Status, Set Password, and Help buttons. Refer to figure 9.



FIGURE 9. Product Retrieval Window Toolbar

3.2.4.7 Product Retrieval window error messages. The following is a list of possible error messages:

Must Enter PSDN Login User Name/Password

Must Enter AFDIS Password

Must Create A Mail Request

Must Create A Request

AFDIS/AFDISCOM Environment Variables In Autoexec.bat
Are Set Incorrectly

User Name Entry Error: Must be between 1 and 12
Alphanumeric Characters

Password Entry Error: Must be between 6 and 31 Alphanumeric
Characters

Password Must Be Between 6 And 31 Alphanumeric Characters.

Cannot submit A New Request Until Previous Submission Is Complete

staticdb.txt does not exist

Failure to download the AFDIS install program.

Failure to download the AFDIS compressed archive.

Failure to download the Paint Shop Pro compressed archive.

Mail Has Been Received From AFGWC

Mail Successfully Sent To AFGWC

Mail Not Sent To AFGWC

User Name Entry Error: Must be between 1 and 12
Alphanumeric Characters

Password Entry Error: Must be between 6 and 31 Alphanumeric
Characters

3.2.5 Data Communications overview. Following is a discussion of the software communications and communication services available for AFDIS.

3.2.5.1 PROCOMM PLUS Operation. PROCOMM PLUS version 2.01 for DOS or PROCOMM PLUS for Windows versions 2.11 and 3.0 for Windows are the communication software which automate the transfer of files between AFDIS and AFGWC in the Windows environment. Refer to the applicable PROCOMM PLUS User Manual for additional information.

3.2.5.1.1 PROCOMM PLUS states. There are two PROCOMM PLUS states: PROCOMM PLUS normal and Z-Modem file transfer. During the normal state, PROCOMM PLUS compiles the aspect script file containing user selected modem settings, dials the telephone, logs on to the AFDIS Server located at AFGWC, and communicates with the AFDIS Server to coordinate file transfers as illustrated in figure 10 for MS-DOS or figure 11 for windows.

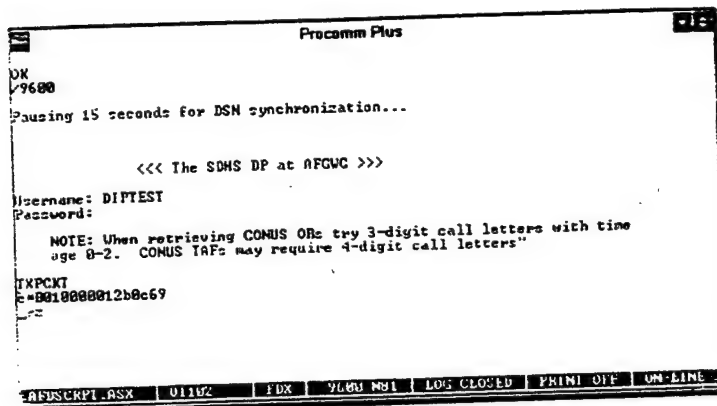


FIGURE 10. PROCOMM PLUS Normal State (MS-DOS Version)

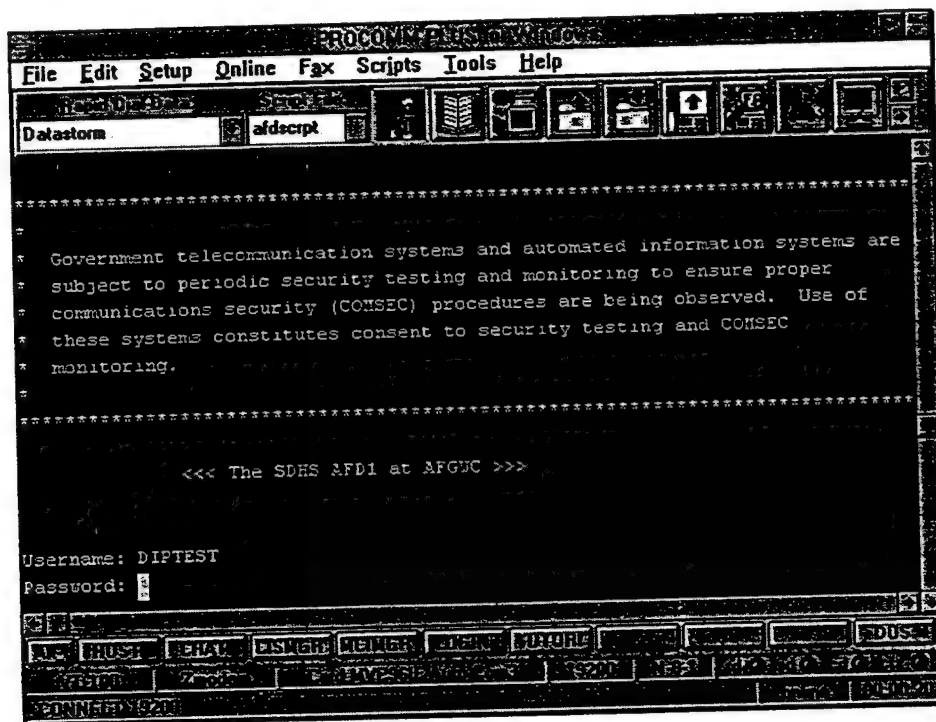


FIGURE 11. PROCOMM PLUS Normal State (MS Windows Version)

Once connected to the AFDIS Server, PROCOMM PLUS uses the ZMODEM protocol to transfer files. During this state a dialog box is displayed with pertinent file transfer information. To accommodate a multiple file product request, PROCOMM PLUS uses multiple ZMODEM transfers as illustrated in figure 12 for MS-DOS or figure 13 for Windows.

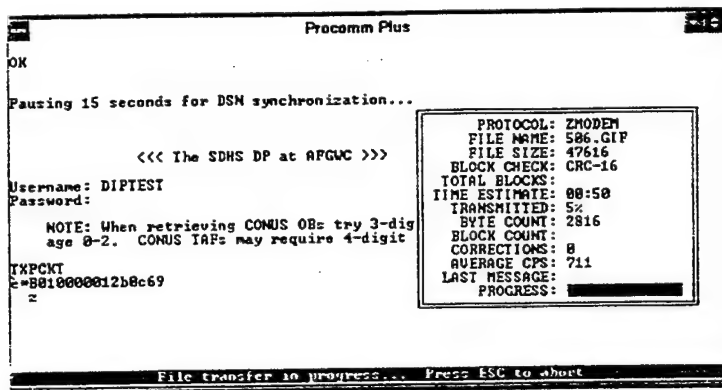


FIGURE 12. PROCOMM PLUS ZMODEM State (MS-DOS Version)

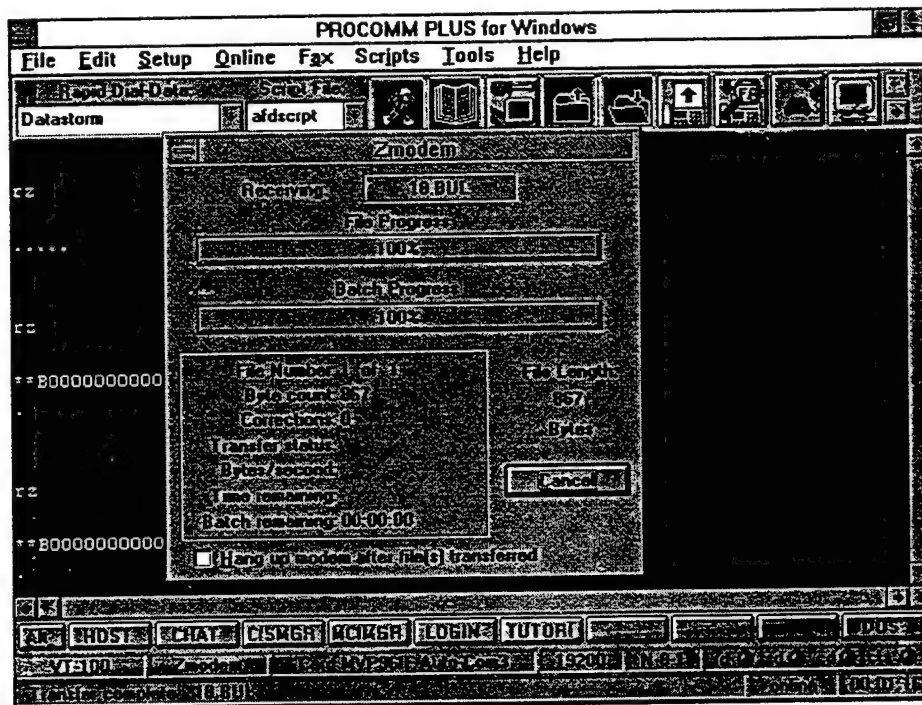


FIGURE 13. PROCOMM PLUS ZMODEM State (MS Windows Version)

3.2.5.1.2 Terminating PROCOMM PLUS. When PROCOMM PLUS is active, the user can terminate either PROCOMM PLUS or a specific file transfer. The PROCOMM PLUS state will determine the resulting termination action.

An "Esc" termination during the normal PROCOMM PLUS state will cancel the request and return the user to the Product Retrieval window.

Pressing the "Esc" key will abort an unwanted transfer using either PROCOMM PLUS for DOS or PROCOMM PLUS for MS Windows. Multiple "Esc" keystrokes are necessary because the AFDIS Server attempts three times to transfer a file. If using PROCOMM PLUS for MS Windows, selecting the Cancel button will also terminate an unwanted transfer. If multiple products were requested, the next file transfer begins.

3.2.5.1.3 Exiting PROCOMM PLUS. Termination during product retrieval may cause PROCOMM PLUS to halt unexpectedly. If the PROCOMM PLUS screen does not update after several minutes, check the PROCOMM PLUS message area to determine if disconnected as illustrated in figure 14.

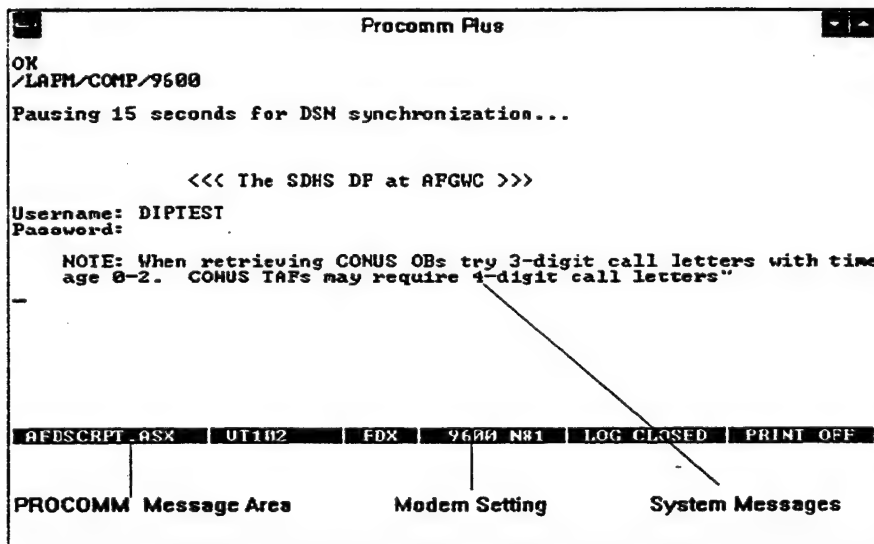


FIGURE 14. PROCOMM PLUS Message Screen

If AFDIS does not display after being disconnected, it will be necessary to exit from PROCOMM PLUS by pressing "Alt+X". The Exit dialog will appear. Answer "Yes" to exit and an AFDIS screen should reappear as illustrated in figure 15.

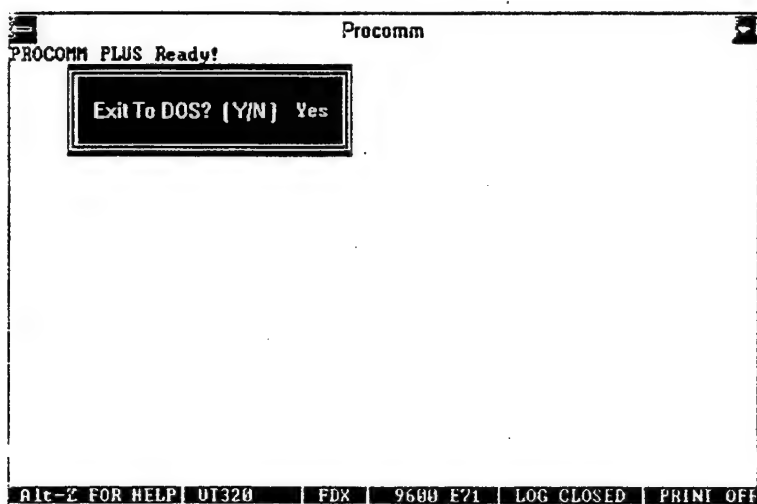


FIGURE 15. PROCOMM PLUS Exit Message

3.2.5.1.4 PROCOMM PLUS scripts. Some regions of the world use special scripts to access the AFDIS host computer. Before deployment and prior to departure, contact the AFGWC Duty Officer for information and procedures required for obtaining and activating country-specific PROCOMM PLUS scripts. Note: Communication facilities in some countries are poor quality and require extreme patience. If line quality is very poor, the AFDIS user may have the most success transferring small text products, e.g., TAFs, OBs, and Weather Bulletins.

3.2.5.1.5 PROCOMM PLUS script filenames in AFDIS. The AFDIS directory contains the following script files:

AREA	MS-DOS v2.01	WINDOWS v2.11	WINDOWS v3.0
USA	AFSCRPT.USA	AFSCRPT.USW	AFSCRPT.US3
Portugal	AFSCRPT.POR	AFSCRPT.AZW	AFSCRPT.AZ3
Guam	AFSCRPT.GAU	AFSCRPT.GAW	AFSCRPT.GA3
Germany	AFSCRPT.GER	AFSCRPT.GEW	AFSCRPT.GE3
Pisa, Italy	AFSCRPT.PIS	AFSCRPT.PIW	AFSCRPT.PI3
Osan, Korea	AFSCRPT.KOR	AFSCRPT.KOW	AFSCRPT.KO3
Seoul, Korea	AFSCRPT.USA	AFSCRPT.K1W	AFSCRPT.K13
Panama	AFSCRPT.PAN	AFSCRPT.PAW	AFSCRPT.PA3

Specially tailored script files should be maintained on a backup floppy disk.

3.2.5.1.6 PROCOMM PLUS script manipulations (V2.01 for MS-DOS). When running the MS-DOS version of PROCOMM PLUS, ".ASX" files will be executing. The MS-DOS version of PROCOMM PLUS takes files ending in '.ASP' as input files and compiles them into a file ending in '.ASX'. The '.ASP' file is human readable whereas the '.ASX' file is machine readable. Compiling the '.ASP' and running the '.ASX' files occurs each time the AFDIS

user communicates with the AFDIS Server. When running the MS-DOS version with AFDIS, the appropriate script file (USA, Egypt, Saudi Arabia, etc.) is copied into the AFDSCRIPT.ASP file which in turn is compiled into the AFDSCRIPT.ASX used by PROCOMM PLUS.

3.2.5.1.7 PROCOMM PLUS script manipulations (V2.11 or V3.0 for Windows). When running the MS Windows version of PROCOMM PLUS, ".WAX" files will be executing. The MS Windows version of PROCOMM PLUS takes files ending in '.WAS' as input files and compiles them into a file ending in '.WAX'. The '.WAS' file is human readable whereas the '.WAX' file is machine readable. Compiling the '.WAS' and running the '.WAX' files occurs each time the AFDIS user communicates with the AFDIS Server. When running the MS Windows version with AFDIS, the appropriate script file (USA, Egypt, Saudi Arabia, etc.) is copied into the AFDSCRIPT.WAS file which in turn is compiled into the AFDSCRIPT.WAX used by PROCOMM PLUS. Only AFDSCRIPT.WAX is seen to be executing.

3.2.5.1.8 PROCOMM PLUS error messages. PROCOMM PLUS may display error messages during execution. Refer to the applicable PROCOMM PLUS User Manual to determine error resolution. If an error is reported during aspect script file compilation, see appendix A.

3.2.5.2 About Z-Modem. Z-Modem is an efficient, error correcting file transfer protocol which sends filename, size, and creation date information with each file. Z-Modem varies the size of blocks to compensate for noisy telephone lines, and retransmits blocks when errors are encountered during transmission.

3.2.5.3 Defense Data Network (DDN) communications overview. DDN provides a robust, Department of Defense (DOD) controlled communication service. Remote users may connect to DDN using one of two methods: direct DDN connection or modem connection to a terminal access controller (TAC) or intermediate host (e.g., American Telephone and Telegraph (AT&T) 3B2). With either connection remote users will be capable of transferring a request and receiving products from AFGWC. All versions of AFDIS will be capable of connecting to DDN via a TAC or alternate host. Only the UNIX version is capable of direct connection. Computers directly connected to DDN via a local backbone network will be able to transfer products (UNIX only) as illustrated in figure 16.

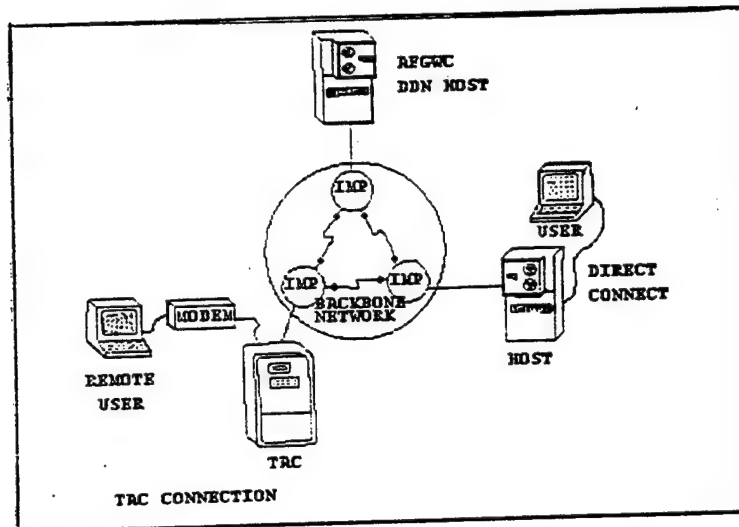


FIGURE 16. DDN Network

3.2.5.3.1 DDN Connection equipment. DDN dial-in access via a telephone connection requires a modem. DDN direct connectivity requires an ethernet interface, network software, e.g., TELNET, File Transfer Protocol (FTP), and direct hard-wired (Ethernet) network connection. Host connection requires a valid user account for the specific environment. Refer to appendix A for a description of DDN parameter settings.

3.2.5.4 Commercial Packet Switch Data Network (PSDN) communications overview. Commercial PSDN provides access to AFGWC from locations around the world. For a current listing of PSDN commercial nodes, their location, and telephone numbers, contact AFGWC Duty Officer at DSN 271-2586.

Several message transactions are required by commercial PSDN to determine node addresses which connect the user to AFGWC. A normal PSDN login consists of the following messages:

1. Transmit several carriage returns to signal the Commercial Packet Switch Network.
2. Wait for "#" prompt.
3. Transmit "C" and a carriage return.
4. Wait for "CENTER" prompt.
5. Transmit the "Commercial PSDN USER NAME" and "Commercial PSDN PASSWORD".
6. Wait for "AFGWC" or "host shut" prompt.
7. Transmit the AFDIS access word.
8. Wait for the AFGWC prompt.
9. Transmit the AFGWC USER NAME and PASSWORD.
10. Wait for string "TXPKT" for 60 seconds.

The above message dialog is implemented by AFDIS as an automated sequence. If an incorrect message is received, an error specific message is written to the AFDIS Request Status file. Refer to 3.2.4.2 for more information.

Once login has been completed, the ZMODEM protocol begins the file transfer. Refer to 3.2.5.2 for more information about Z-MODEM.

3.2.5.5 DSN communications. AFGWC has DSN connections dedicated to AFDIS. Use the DSN phone setting option to activate the DSN capability. Note: DSN data transfer may be limited to the 2400 baud rate although AFGWC equipment has a maximum throughput of 38.4 Kbytes and is compatible with most modem error control and data compression standards (e.g., V.32, V.42, MNP). Problems with satellite and ground stations, i.e., echoing effect, can cause large delays and hamper data transmission. Each user should try different rates and use the baud rate best suited for that location.

3.2.6 Product Selection window. The Product Selection window creates the user product requests which are sent to AFGWC as illustrated in figure 17.

The screenshot shows a window titled "Product Selection" with a menu bar (File, Products, Item, Help) and a toolbar. Below the toolbar, it says "Summary of products selected for this request:". A table follows with three columns: Identifier, Description, and Time Estimate. The table lists several products with their descriptions and time estimates. At the bottom, it states "Est. Total Trans Time: 11 min.".

Identifier	Description	Time Estimate
WUUS2	- SEVERE PIREPS - CONUS	01
WUUS60	- 24HR LISTING OF SEVERE WEATHER - CONUS	01
ASNH	- RASTER SFC ANAL, CENTRALUSA	01
ASNH	- VECTOR NH PRELIMINARY SFC ANAL, CENTRALUSA	01
AXNH0S90	- VECTOR NH SFC PLOT/TMP/PRS/DPT ANAL, CENTRALUSA	01
SBNA0S90	- VECTOR RADAR SUM CONTRS/LABELS HH+35, CENTRALUSA	01
SBNA0S90	- RASTER RADAR SUM CONTRS/LABELS, CENTRALUSA	01
WUUS	- RASTER MWA, CENTRALUSA	01
WUUS	- VECTOR US MWA VER-D, CENTRALUSA	01
GRID:HIR	- DPD Lu1:SF Base:06 FC:000 Area:CENTRALUSA	01

Est. Total Trans Time: 11 min.

FIGURE 17. Product Selection Window

The request contains the necessary information for the AFDIS Server to retrieve the product data from SDHS and deliver it back to the remote user. Each request can retrieve products and information up to the limits stated in table I.

TABLE I. Maximum Product Limits Per Request

PRODUCT TYPE	MAXIMUM LIMIT
OBSERVATIONS	1 File containing a maximum of 20 stations OR 1 station for 30 hours
TAF's	1 File containing a maximum of 20 stations
MAIL	1 File
BULLETINS	50 Bulletins
VECTORS and RASTERS	15 Vectors maximum 15 Rasters maximum
GRIDDED DATA	50 Total Grids
SATELLITE GLOBAL DATA BASE (SGDB)	10 Images

The maximum total number of requested products cannot exceed 95. Refer to 3.2.6.3 for a description of how to add and delete products from the Summary List.

3.2.6.1 Product Selection window File menu. The Product Selection window contains a File menu with options: Save, Save As, Print, Delete, and Exit as illustrated in figure 18.

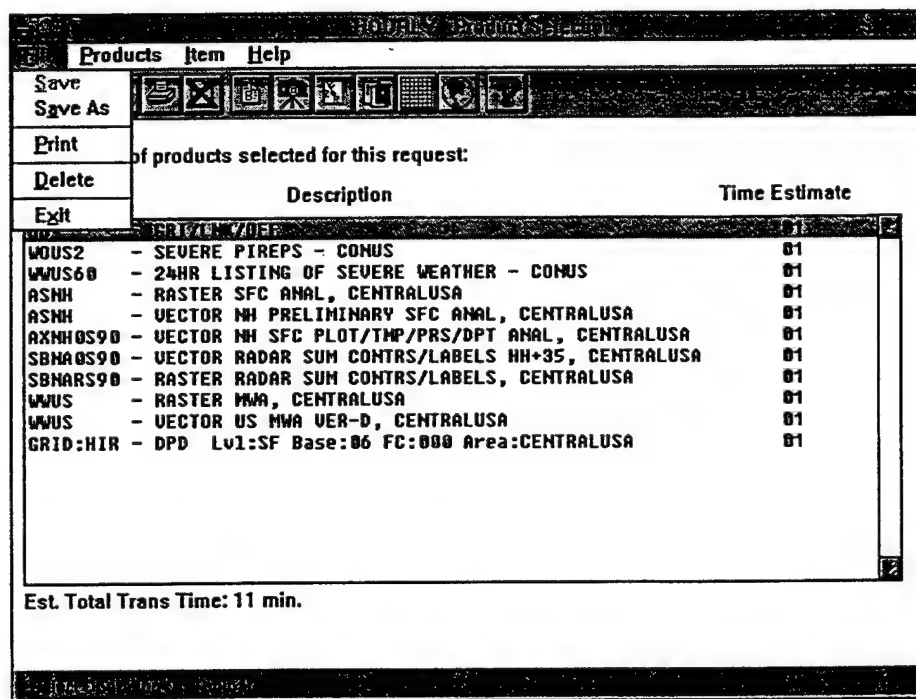


FIGURE 18. Product Selection Window File Menu

3.2.6.1.1 File Save Request menu. The File Save menu option saves an existing, open request. Existing requests can be opened, modified, and then saved.

3.2.6.1.2 File SaveAs Request menu. The File SaveAs menu option saves the current request with a different request filename. When selected, the SaveAs dialog will appear. Enter a filename which contains up to 12 printable ASCII characters including blank spaces. Note that a request with a blank filename cannot be saved. Figure 19 illustrates a File SaveAs dialog with a filename properly entered.

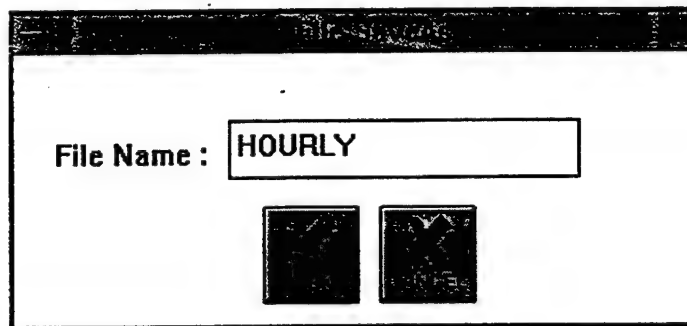


FIGURE 19. SaveAs Requests

3.2.6.1.3 File Print Request menu. The File Print option sends the current, open request to the printer.

3.2.6.1.4 File Delete Request menu. The File Delete menu option is used to delete the currently open request.

3.2.6.1.5 File Exit Request menu. The File Exit menu option exits the Product Selection window and returns control to the Product Retrieval window.

3.2.6.1.6 Product Selection window toolbar. The Product Retrieval window toolbar options include: Exit, Save Request, SaveAs, Print, Delete Request, Select Bulletins, Select Raster, Select Plot, Select Chart, Select Grids, Select SGDB, and Help buttons. Refer to figure 20.

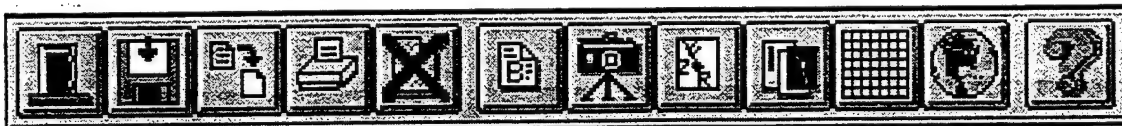


FIGURE 20. Product Selection Window Toolbar

3.2.6.1.7 Product Selection window error messages. Following is a list of Product Selection error messages.

No products were selected for deletion!

Only 50 Bulletins may be selected

OB Location name is greater than four characters.

OB Location Has Non-alphanumeric Character Or Space.
Make Correction And Re-enter Location.

Only 20 OB Locations are allowed.

Only One (5 To 30 Hour) Observation Allowed Per Request.

TAF Location name is greater than four characters.

TAF Location Has Non-alphanumeric Character Or Space. Make
Correction An Re-enter Location.

Only 20 TAF Locations are allowed.

Must select a time interval.

FileName already exists, Please select another name.

Raster product name is greater than eight characters.

Raster product name has non-alphanumeric character or space.
Make correction and re-enter Product Name.

Only 15 Raster products are allowed.

File Name Entry Error: Must be between 1 and 12
Alphanumeric Characters!

Only 15 Vectors may be selected

Only 50 Grids may be selected

Only 10 SGDB Images are allowed

3.2.6.2 Product Selection Products menu. The Product Selection window Products menu is used to select picture data, TAFs-OBs, weather bulletins, chart products, satellite grids (Satellite Global Data Base (SGDB)) imagery, and gridded data options as illustrated in figure 21.

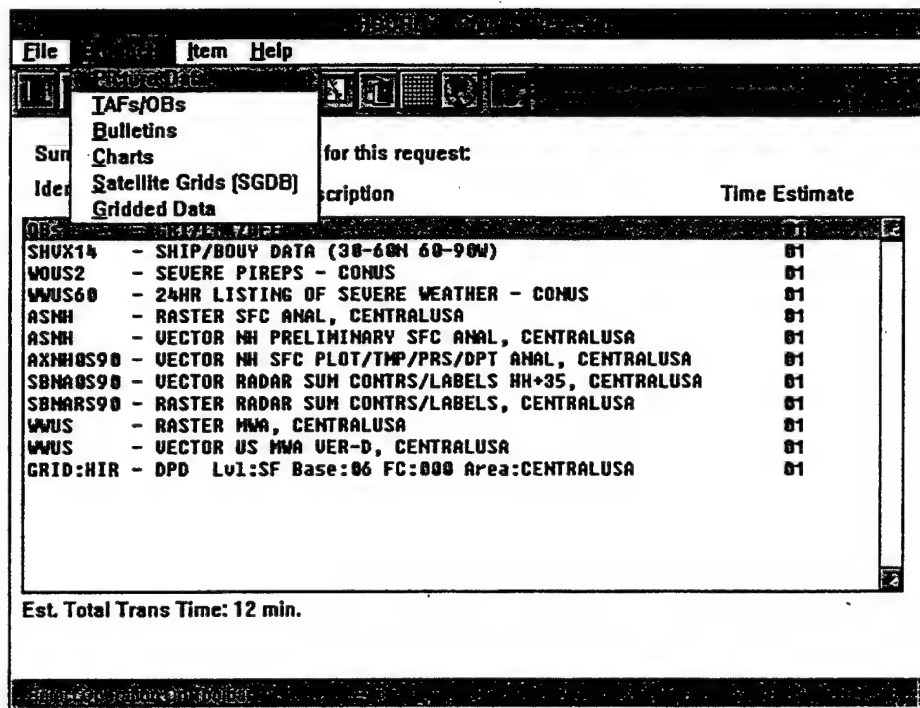


FIGURE 21. Product Selection Window Products Menu

3.2.6.2.1 Products Picture Data List Selection menu. The Products Picture Data List Selection menu option displays the Scanned (Picture) Products Selection dialog. The Scanned (Picture) Product Selection dialog allows the selection of numerous pre-defined raster/scan images. See figure 22. The available product listing is updated periodically by the AFDIS Manager and uploaded automatically during requests. When closed, the Scanned (Picture) Product Selection dialog updates the Request Summary list with the scan product names. Refer to 3.2.10 for a description of how to add or delete scan product names.

Name	Content
UPDATE	28-MAY-1996
WESTERN	REGION --- KOREAN THEATER
	--- KOREAN THEATER - RWM DATA ---
K03WND24	300MB WINDS - 24HR
K03WND36	300MB WINDS - 36HR
K04WND24	400MB WINDS - 24HR
K04WND36	400MB WINDS - 36HR
K07ICG36	ICING AT 10000 FEET - 36HR
K07WND24	700MB WINDS - 24HR
K07WND36	700MB WINDS - 36HR
K0E024	E-0 W/THRESHOLDS - 24HR
K0E036	E-0 W/THRESHOLDS - 36HR
K0LLWS24	LOW-LEVEL WIND SHEAR - 24HR
K0LLWS36	LOW-LEVEL WIND SHEAR - 36HR

Est. Data Trans. 0 min.

FIGURE 22. Scanned Picture Products Selection Dialog

3.2.6.2.2 Products Picture Data Entry menu. The Products Picture Data Entry menu option displays the Picture Data Entry dialog. The Picture Data Entry dialog allows the user to enter scan product names as illustrated in figure 23. The scan product names are specified at AFGWC and are available to the remote user by contacting the GDO. When closed, the Picture Data Entry dialog updates the Product Selection Summary list with the scan product names. Refer to 3.2.6.10.2 for a description of how to add and delete scan product names.

Picture Data Selection

Enter: [] [Add]

[X]

Selected: []

Estimated Data Transmission Time: 0 min.

FIGURE 23. Picture Data Entry Dialog

3.2.6.2.3 Products TAFs-OBs menu. The Products TAFs-OBs menu option displays the TAF and OBs Selection dialog. The TAFs and OBs Selection dialog allows the user to enter International Civil Aviation Organization (ICAO) station identifiers for TAFs and OBs and time range values for OBs selections as illustrated in figure 24. When closed, the TAFs and OBs Selection dialog updates the Product Selection Summary List with the TAFs and OBs selected. Refer to 3.2.6.5 for a description of how to add and delete TAF and OBs entries.

TAF and OBs Selection

TAFS: Selected OBS: Selected Age

EDAC OFF OUL RIU TIK EDAC OFF OUL RIU TIK 4 5 6 7 8 9 10 11 12 13

Enter: ☒ TAFs ☒ OBs

Add

Est. Data Transmission Time: 2 min.

FIGURE 24. TAFs and OBs Selection Dialog

3.2.6.2.4 Products Bulletins menu. The Products Bulletins menu option displays the Weather Bulletins Selection dialog. The Weather Bulletins Selection dialog displays "selected" weather bulletin names based on active bulletin attributes as illustrated in figure 25. When closed, the Weather Bulletins dialog updates the Product Retrieval Summary List with the products selected. Refer to 3.2.9 for a description of how to select Weather Bulletins.

WEATHER BULLETIN SELECTION

Bulletin Options Filter

Locations:

TROP
CONUS
EUROPE
ASIA
NH
WH
MISC
SH

Type:

DISC
HAZARD
MISC
METSAT
FCST
RAREP
XRCISE
OBS

Select From Bulletin Options ...

Name	Description
FXUS4	- NMC QPF DISCUSSION
MTXX03	- SEA STATE / WAVE CONDITIONS
PDUS43	- MWA FCST DISCUSSION
PDUS44	- MWA FURTHER OUTLOOK DISCUSSION
SHUX14	- SHIP/BOUY DATA (30-60N 60-90W)
WQUS1	- SEVERE WEATHER REPORTS - CONUS
WQUS2	- SEVERE WEATHER - CONUS
WQUS6	- 24HR LISTING OF SEVERE WEATHER - CONUS

Est. Data Transmission
2 min.

FIGURE 25. Weather Bulletin Selection Dialog

3.2.6.2.5 Products Charts menu. The Products Charts menu option displays the Chart Product Selection dialog. The Chart Product Selection dialog displays available product names based on active product attributes as illustrated in figure 26. AFGWC manual, automated Global Spectral Model (GSM), and RWM products are available. When closed, the Chart Product Selection dialog updates the Product Selection Summary List with the products selected. Refer to 3.2.6.7 for a description of how to select chart products.

Select Area:
CENTRALUSA
New Show

Levels:
SFC
1000
850
700
500
400
300

Forecast:
36
48
72

Type:
ANAL
Add
Format

Select From Product Options ...

Name	Description
FANA2	- RASTER TURBC BLO 10K
FANA2	- VECTOR TURBC BLO 10K
FANH2A	- RASTER 24HR TSTMS/ICG PROG
FANH2A	- VECTOR NH 24HR TSTMS/ICG
FANH2B	- RASTER 24HR TURBC PROG
FANH2B	- VECTOR NH 24HR TURBC
FANH3A	- RASTER 36HR TSTMS/ICG PROG
FANH3B	- RASTER 36HR TURBC PROG
FANH2	- RASTER 24HR LOW LVL CLDS/PRECIP

Est. Data Transmission Time: 2 min.

FIGURE 26. Chart Product Selection Dialog

3.2.6.2.6 Products Satellite Grids (SGDB) menu. The Products Satellite Grids (SGDB) menu option displays the SGDB Grid (Image) Data Selection dialog. The SGDB Grid (Image) Data Selection dialog allows SGDB images to be retrieved from the AFDIS Server for a specified area. See figure 27 for a depiction of the SGDB Grid (Image) Data Selection dialog. Refer to 3.2.6.10 for a description of how to add an SGDB image request.

SGDB Grid (Image) Data Selection

Area of Coverage:
CENTRALUSA

New Show

Image File Size:
☐ Small - 16 Colors
☒ Large - 64 Colors

Sensor Type:
☒ Infrared
☐ Visual

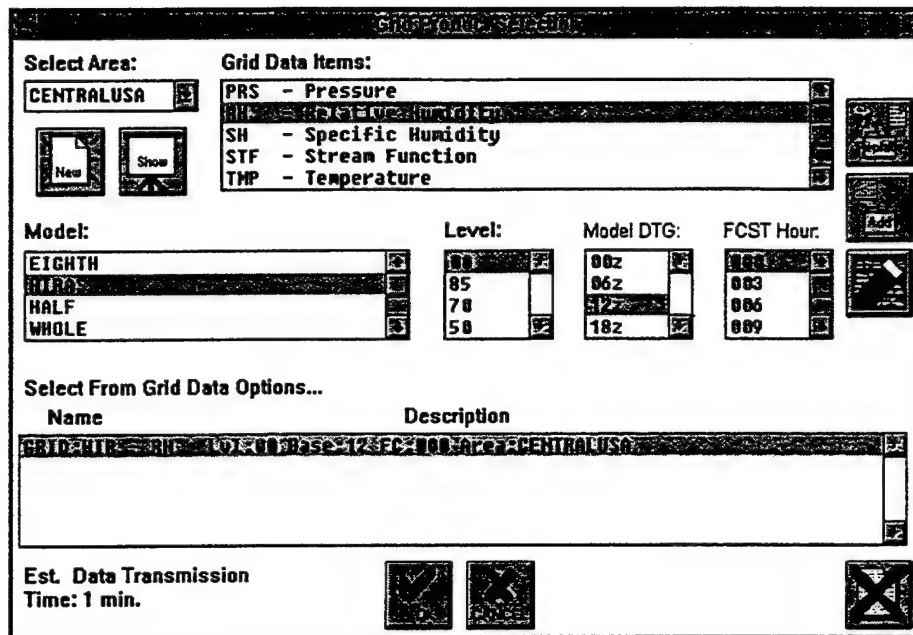
Display Factor:
☐ Zoom 8
☒ Zoom 4
☐ Zoom 2
☐ Zoom 1

Est. Data Transmission Time: 1 min.

OK Cancel

FIGURE 27. SGDB Grid Data Selection Dialog

3.2.6.2.7 Products Gridded Data menu. The Products Gridded Data menu option displays the Gridded Product Selection dialog. The Gridded Product Selection dialog displays "filtered" grid product names based on grid attributes as illustrated in figure 28. Grid attributes are: Select Area, Grid Data Items, Mesh, Level, Model Date Time Group (DTG), and FCST Hour. Model products are available from AFGWC in the following meshes: whole, half, eighth, High Resolution Analysis System (HIRAS), Relocatable Window Model (RWM), real-time nephanalysis (RTNEPH), and Special Sensor Microwave/Imager (SSM/I).



The dialog box is titled "GRID PRODUCT SELECTION". It contains several sections for configuring data products:

- Select Area:** A dropdown menu showing "CENTRALUSA". Below it are "New" and "Show" buttons.
- Grid Data Items:** A list box containing "PRS - Pressure", "RH - Relative Humidity", "SH - Specific Humidity", "STF - Stream Function", and "TMP - Temperature".
- Model:** A list box with "EIGHTH", "HALF", and "WHOLE".
- Level:** A list box with "85", "78", and "58".
- Model DTG:** A list box with "00z", "06z", "12z", and "18z".
- FCST Hour:** A list box with "003", "006", and "009".
- Select From Grid Data Options...**: A section with a table header "Name" and "Description". Below the header is a single row of text: "GRIDCENTR - RHC - 10500000-12-EC-100-AFC-CENTRALUSA".
- Est. Data Transmission Time: 1 min.**: A label at the bottom left.

On the right side of the dialog, there are several control buttons: "Add", "Remove", "OK", and "Cancel".

FIGURE 28. Grid Product Selection Dialog

3.2.6.3 Item Delete menu. The Item drop down menu presents the Delete Item menu option as illustrated in figure 29. The Delete Item option allows the user to delete highlighted items from the Product Selection Summary List.

The screenshot shows a window titled "Product Select Item Menu". It has a menu bar with "File", "Products", and "Help". Below the menu bar is a toolbar with various icons. The main area displays a "Summary of products selected for this request:" followed by a table with three columns: "Identifier", "Description", and "Time Estimate". The table lists several products, including OBs, WOUS2, WOUS60, and various radar and vector products for Central USA. At the bottom of the window, it states "Est. Total Trans Time: 11 min." and there is a "Select Operation Parameters" button.

Identifier	Description	Time Estimate
OBs	- GRI/LNK/OFF	01
WOUS2	- SEVERE PIREPS - CONUS	01
WOUS60	- 24HR LISTING OF SEVERE WEATHER - CONUS	01
ASNH	- RASTER MM PRELIMINARY SFC ANAL, CENTRALUSA	01
AXNH0590	- VECTOR MM SFC PLOT/TMP/PRS/DPT ANAL, CENTRALUSA	01
SBHARS90	- VECTOR RADAR SUM CONTRS/LABELS MM-35, CENTRALUSA	01
SBHARS90	- RASTER RADAR SUM CONTRS/LABELS, CENTRALUSA	01
WWS	- RASTER MMA, CENTRALUSA	01
WWS	- VECTOR US MMA VER-D, CENTRALUSA	01
GRID:HIR	- DPD Lvl:SF Base:06 FC:000 Area:CENTRALUSA	01

Est. Total Trans Time: 11 min.

FIGURE 29. Product Select Item Menu

3.2.6.4 Product Selection Overview. The Product Selection Summary List displays the list of selected items to be retrieved and estimated total transmission time.

3.2.6.4.1 Product Selection Summary List. The Product Selection Summary List lists the products which will be submitted to the AFDIS Server and the item's estimated transmission time. See figure 30. Selecting products from the Scanned Product Selection, Picture Data Selection, TAFs and OBs Selection, Weather Bulletins Selection, Chart Product Selection, SGDB Grid Data Selection, or Grid Product Selection dialogs adds products to the Product Selection Summary List.

Weather Data To Be Requested

Identifier	Description	Time Estimate

FIGURE 30. Product Selection Summary List

3.2.6.5 Specifying TAFs and OBs. Three types of TAF data are available at AFGWC: plain language, less than 24 hour forecasts, and greater than or equal to 24 hour forecasts. TAF data retrieved from AFGWC may include all three types from civilian or military sources. Only 20 ICAO identifiers or call letters are allowed per TAF request. Most continental United States (CONUS) TAFs are available by using the 3-letter (local) ICAO identifier because the ICAO identifier is stored on SDHS exactly as reported by the location. Unclassified KQ (weather station) observations are also available. Contact the AFGWC GDO for additional information about availability of specific station data.

Two types of weather observations (OBs) are available at AFGWC: hourly and special. An OBs retrieval request will retrieve both types, if available, for the specified time period. The OBs retrieve time period is referenced to the time-of-receipt of the retrieval request at AFGWC. For example, an OBs retrieval request for four hours of observations, i.e., Time Age of 0-3 received at 1217Z will return all OBs data received for the ICAO from 0817Z through 1217Z. Note: It is recommended that at least a two hour time period, e.g., 0-2, be specified when retrieving OBs.

A returned observation can be in Airways, METAR (Meteorological Aerodrome Report), or Synoptic coded form. The returned observation will be in the form of the last stored observation.

3.2.6.5.1 Adding TAFs and OBs to Selection List. Select the "TAFs" or "OBs" button to add ICAOs to respective lists as shown in figure 31. Place the cursor in the "Enter" text box by mouse or keyboard entry and type an ICAO identifier. To incorporate the ICAO identifier, click on the "Add" button or press the keyboard "Enter" key. The ICAO identifier will be displayed in the specified list(s).

TAFS: Selected
GRI
LNK
OFF
RIU

OBS: Selected Age
GRI
LNK
OFF
RIU
4
5
6
7
8
9
10
11
12
13

Enter: own

☒ TAFs
☒ OBs

Est. Data
Transmission
Time: 2 min.

FIGURE 31. Entering TAFs and OBs Selection Dialog

3.2.6.5.2 Deleting TAFs and OBs from selected list. To delete ICAO identifiers from a TAFs or OBs selected list, highlight the ICAO identifiers either by mouse or keyboard entry and click on the "Delete" button or press the "Enter" key. The highlighted ICAO identifiers will be deleted from the list.

3.2.6.5.3 OBs time range selection rules. Observation requests allow for multiple hour retrieval of observations. There are two options available for retrieval of OBs:

- a. Retrieve up to 20 locations with one to four hours of observations for each location.
- b. Retrieve one location for up to 30 hours of observations.

Specifying 20 ICAO identifiers with a time range of four hours will retrieve 20 groups of observations with each group containing four hours of data. Specifying a time value of zero retrieves the current hour observation and counts as one time entry. **Note: SDHS data bases are usually updated twenty minutes after the hour. An observation request ten minutes after the hour will usually be returned as not available.**

To request the last 30 hours of observations for a single site, select zero through 29 in the Age list box. **Note: A mouse may be used to select multiple hours. Refer to appendix C for information on selecting multiple hours with either a mouse or the keyboard. Observations for five hours or greater can be retrieved for only one ICAO. Determine the time offset from the current time and the needed observation hour, and select that**

time age. For example, if it is currently 21:00 Greenwich Mean Time (GMT) and the observation of interest occurred at 15:00 GMT, specify a six hour time offset.

3.2.6.5.4 Adding TAFs and OBs selections to the Summary List. After ICAO identifiers and time range values have been entered and selected, clicking the "OK" button moves the entered products to the Product Selection Summary List. Selecting the "Cancel" button closes the window and clears the TAFs and OBs selection lists without updating the Product Retrieval Summary List as illustrated in figure 32.

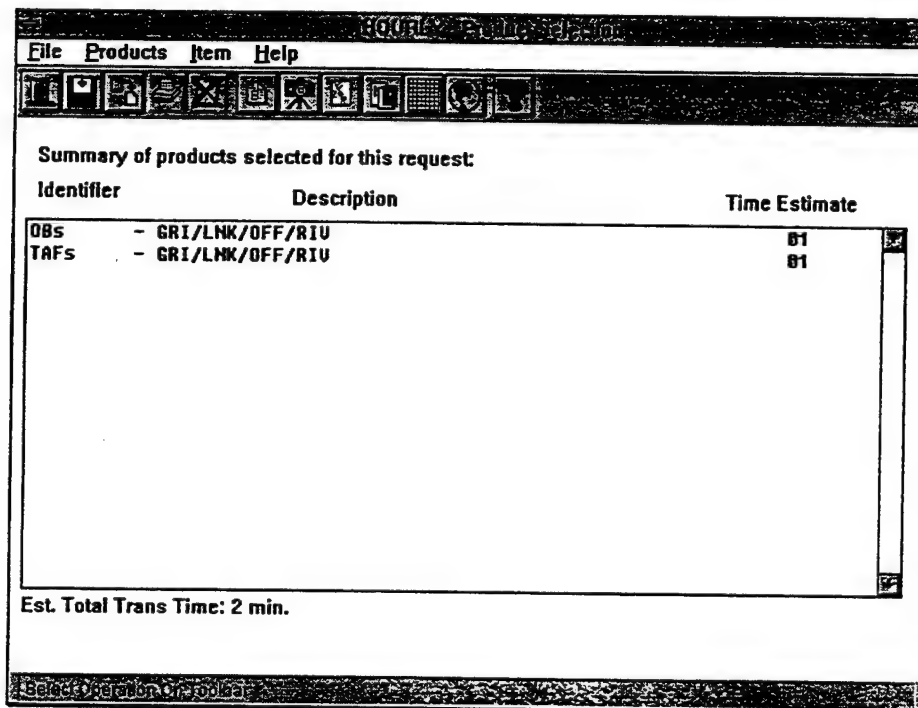


FIGURE 32. Adding TAFs and OBs Selections

3.2.6.6 Specifying Gridded Products. Many SDHS grids and grid types are available for selection. To narrow the selection list, the following discussion precedes a general atmospheric model/grid overview. Further information on specific AFGWC models and grid projections is available in AFGWC/TN -79/003, Map Projections and Grid Systems for Meteorological Applications. All grid data have common attributes and can be categorized into two types: those inherited from the model which produced the data and those defining the display attribute. The model or mesh attributes include data availability, data item mnemonics availability, grid mesh types, atmospheric levels availability, model base times, and forecast times. The display attribute is the display projection specified by the user.

AFDIS version 4.0 provides the capability to retrieve SDHS "raw" grid data directly from the model. SDHS "derived" grid data have been further manipulated. AFDIS cannot retrieve derived grids. For example, consider standard atmospheric height levels. The models will output deviations from the standard atmospheric mean (D-values) as raw data. SDHS generates height values for each standard level by applying the standard atmospheric mean to the D-values. This generated height grid is derived grid data and is not available via AFDIS.

3.2.6.6.1 Grid retrieval times. To perform grid retrievals, the Model Date, Time, Group (DTG) and a forecast (FCST) hour must be entered. The Model DTG is the base analysis time for that model. The FCST hour is the number of hours past the Model DTG for which the forecast data are valid. For example, if it is currently 10Z and the data requested are for 12Z, the request should be submitted for 06Z with a 06 FCST hour. AFDIS will return available data. If the requested data are not available, AFDIS calculates the valid time and returns the next available grid data. For example, if the 00Z data are available, a forecast valid time of 12 hours will be calculated and the 00Z Model DTG with 12 hour FCST grid data will be returned.

3.2.6.6.2 Data availability. Every atmospheric model has a base time used to calculate generation of weather data. A model with a 00Z base time will generate an analysis and forecast based on the 00Z weather data received at AFGWC. Since weather data are received from many sources, a data acceptance period of one to three hours is generally allowed. After the data acceptance period has expired, the model generation process may take some time before the data become available. As an example, for the 00Z model base time, which is based on weather data observed at 00Z, the resulting gridded data usually become available between 0530Z and 0630Z.

Different forecast period and type of grid data are processed and available at different times. The following general rules apply:

- a. HIRAS analysis data are normally available 3:15 to 3:45 hours after base time
- b. GSM 12 and 24 hour forecasts are available 4:00 and 4:30 hours after base time
- c. GSM 36 and 48 hour forecasts are available 4:30 to 5:30 hours after base time
- d. GSM 72 hour forecasts are available 5:30 to 8:00 hours after base time
- e. RWM data availability varies between 3:00 to 6:00 hours after base time.

When retrieving gridded data the user should select several base times for the same data item. This increases the probability of retrieving the desired data. Occasionally a computer system failure will cause an entire model cycle to be skipped. If several attempts to retrieve data are answered with "unavailable" status responses, contact the AFGWC GDO for model data status.

3.2.6.6.3 Data Item Mnemonics availability. Refer to appendix F for a listing of data item mnemonics available from AFDIS. Each model does not produce every mnemonic listed. Infrequently requested data items for specific atmospheric levels and forecast periods have been turned off to prevent system overloading. If a particular grid for a specific item is not available for a model/mesh, the user should specify a different mesh. Specialized data mnemonics are only generated from specific models. As a general rule, when mixing data from different meshes/models, try to keep the base times within three hours of one another. Mesh types are usually transparent (except for resolution) but different base times may cause data fluctuations. Not all data may be available. Grid data availability varies according to computer system resources. Contact the AFGWC GDO for more information about model types and grid data availability.

3.2.6.6.4 Data Meshes. Data meshes determine how much numeric data are available for a particular grid. All models have a grid mesh associated which directly indicates data resolution. A whole mesh grid is a two dimensional grid array overlaid on a polar stereographic projection (northern or southern hemisphere) with an array size of 64 x 64 data points. A 64 x 64 grid over the entire northern hemisphere provides one data point for approximately every 206 miles.

Data mesh and resolution directly affect the data file size and data usability. For best results, the user should generate several areas of varying size with the same center point when defining areas of coverage. Use smaller areas when retrieving finer mesh and SGDB data. Use larger areas for the lower resolution grids. This multiple area technique will provide significant data coverage while minimizing data transmission times.

Whole mesh is the base resolution to which all meshes are compared. For example, distance between half mesh grid points is one half the distance between whole mesh grid points; the distance between quarter mesh grid points is one-fourth the distance between whole mesh grid points. The relationship between a whole mesh grid and its half mesh and quarter mesh counterparts is shown in figure 33.

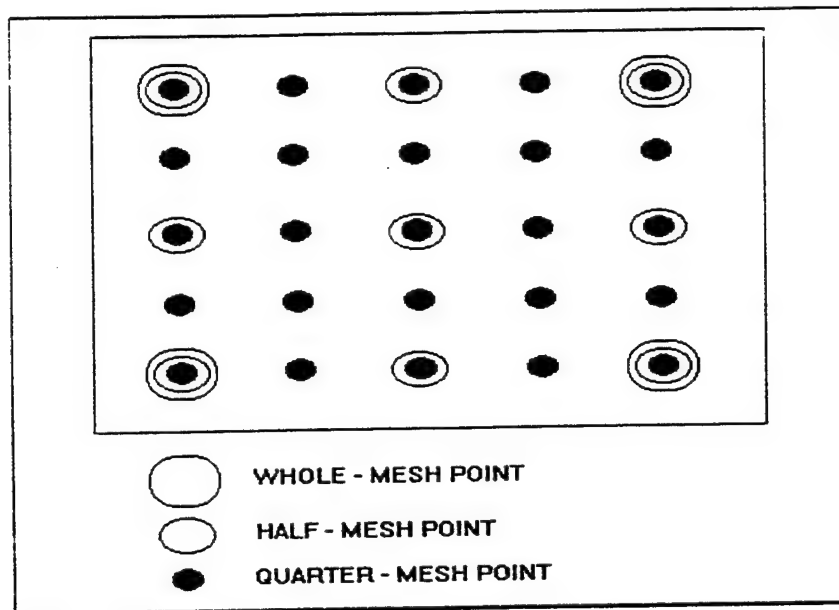


FIGURE 33. Relationship of Grid Meshes

Sixty-fourth mesh is the highest resolution mesh grid available and has an array size of 4096 x 4096 with data resolution of one point every 3.2 miles. SGDB is the only sixty-fourth mesh satellite image data currently available from SDHS.

HIRAS meshes are two dimensional arrays overlaid onto a specific latitude/longitude (lat/lon) projection. The HIRAS grid is a 145 x 73 array. The data resolution for the HIRAS grid is 2.5° in both latitude and longitude.

RWM is a generic mesh type. RWM grids may be based upon any of the previously mentioned grid meshes transposed on either the polar stereographic or lat/lon projections. RWM meshes may be readily switched. Currently the movable RWM windows are eighth mesh and the fixed windows are half mesh. The user need not be concerned about RWM grid mesh attributes because the AFDIS handles RWM mesh and projection variations. Pre-defined RWM areas are the only means by which RWM grids and vector products can be selected.

3.2.6.6.5 Atmospheric Level availability. Due to limited computer resources not all standard atmospheric levels are available for retrieval. The user should select several mesh types with the same data item mnemonic to determine the data availability.

3.2.6.6.6 Model base time. Model base time refers to the data time or occurrence time period. A model may have multiple cycles with multiple base times, e.g., 00Z, 03Z, ..., 21Z. The AFDIS Server software only permits access to data for a single 24 hour

period. The current Zulu time, base time, and data availability will determine whether previous or current cycle grid data will be retrieved.

The user should apply the previously discussed rules for data availability and should select several base times for retrieval. With experience the user can determine more precise retrieval criteria.

3.2.6.6.7 Display projections. Grids can be displayed in only one of three AFDIS display projections: northern or southern hemispheric, or tropical. The display projection associated with the area of coverage determines the available grid meshes.

HIRAS meshes are compatible with all three display projections as they are lat/lon based. Whole, half, and eighth grid meshes are only available for northern and southern projections. Whole mesh tropical grids are available for the tropical projection.

3.2.6.6.7.1 Specifying grid filter options. The Grid Data Filter uses all grid attributes to determine grid data items which meet the filter criteria. Upon entry to the dialog only the Select Area list box has entries. Selecting an Area of Coverage specifies the display projection attributes and generates a list of available mesh entries in the Mesh list box.

NOTE: Pre-defined RWM areas are determined by the AFDIS System Administrator, therefore no mesh entry will be listed.

Selecting an appropriate mesh type for the area generates a list of available data item mnemonics entries in the Grid Data Item list box. Selecting a data item generates a list of available atmospheric levels, Model DTG, and FCST hour in the appropriate list box. Multiple attributes may be selected from the Level, Model DTG, and FCST Hour list boxes. See figure 34.

Select Area:
CENTRALUSA

Grid Data Items:
HGT - Height
DMG - Omega (Vertical Velocity)
PPW - Precipitable Water
PRS - Pressure
RH - Relative Humidity

Model:
EIGHTH

Level:
00

Model DTG:
002

FCST Hour:
000

Select From Grid Data Options...

Name	Description
GRID:HIR - RH	Lvl:70 Base:00 FC:000 Area:CENTRALUSA
GRID:HIR - RH	Lvl:70 Base:00 FC:003 Area:CENTRALUSA
GRID:HIR - RH	Lvl:85 Base:00 FC:000 Area:CENTRALUSA
GRID:HIR - RH	Lvl:85 Base:00 FC:003 Area:CENTRALUSA

Est. Data Transmission Time: 2 min.

FIGURE 34. Specifying Grid Product Filter

3.2.6.6.8 Implementing grid filter selections. Once product categories are specified, click on the "Replace", "Add", or "Clear" button to update the product list. See figure 35. The "Replace" button replaces the previously filtered candidate list with a new filtered candidate list. The "Add" button appends the newly filtered candidate list to the previous candidate listing. The "Clear" button clears the product category selections.

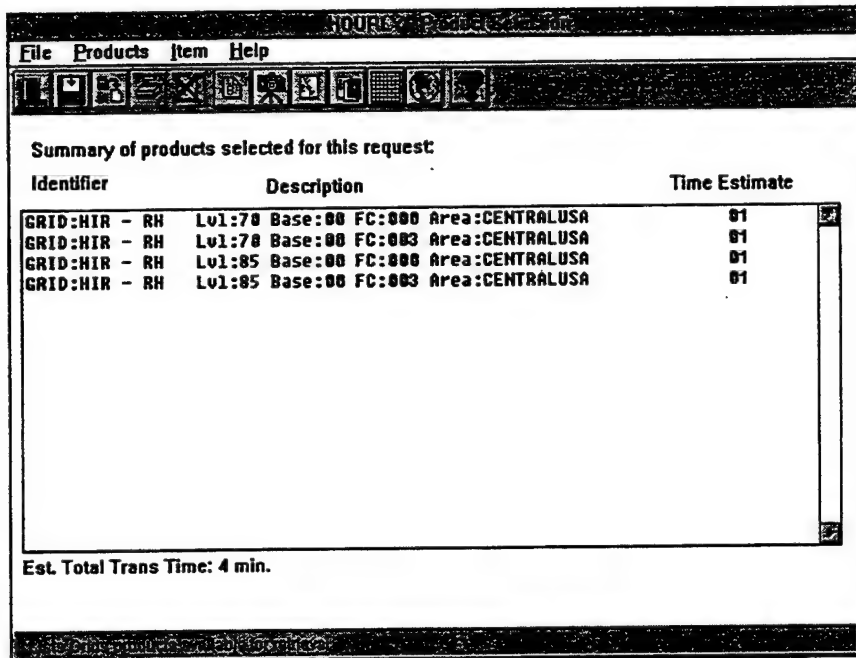
Select From Grid Data Options...

Name	Description
GRID:HIR - RH	Lvl:70 Base:00 FC:000 Area:CENTRALUSA
GRID:HIR - RH	Lvl:70 Base:00 FC:003 Area:CENTRALUSA
GRID:HIR - RH	Lvl:85 Base:00 FC:000 Area:CENTRALUSA
GRID:HIR - RH	Lvl:85 Base:00 FC:003 Area:CENTRALUSA

Est. Data Transmission Time: 2 min.

FIGURE 35. List of Available Grid Products

3.2.6.6.9 Adding Grid Products selections to the Summary List. To add products to the Product Selection Summary List, select candidate products from the product list and click on the "OK" button. The selected products will be included in the Summary List as shown in figure 36. Multiple selections are made by pressing the Shift or Control key while selecting with the mouse. Pressing the "Cancel" button closes and clears the Grid Product Selection dialog with no updates to the Product Selection Summary list.



Identifier	Description	Time Estimate
GRID:HIR - RH	Lvl:70 Base:00 FC:000 Area:CENTRALUSA	01
GRID:HIR - RH	Lvl:70 Base:00 FC:003 Area:CENTRALUSA	01
GRID:HIR - RH	Lvl:85 Base:00 FC:000 Area:CENTRALUSA	01
GRID:HIR - RH	Lvl:85 Base:00 FC:003 Area:CENTRALUSA	01

Est. Total Trans Time: 4 min.

FIGURE 36. Adding Gridded Products to the Summary List

3.2.6.7 Specifying Chart Products. SDHS produces a wide range of weather model data for the northern and southern hemispheres, and tropical projections. Chart data are currently available for the High Resolution Analysis System (HIRAS), GSM, and RWM models. All vectored format products can be overlaid on an SGDB satellite image. Refer to 3.2.12 for more information about displaying and manipulating vectors.

3.2.6.7.1 Specifying Chart Products Filter Options. Specifying the Chart Products Selection filter is used to select product categories and attributes from the larger product list, and to display a list of products complying with the selected attributes as illustrated in figure 37. The categories available are: Select Area (area of coverage), Levels (atmospheric), Forecast (valid time), Type and Format.

Select Area: <input type="text" value="CENTRALUSH"/> <input type="button" value="New"/> <input type="button" value="Show"/>	Levels: <table border="1"> <tr><td>LIST</td><td>↑</td></tr> <tr><td>SFC</td><td></td></tr> <tr><td>1000</td><td></td></tr> <tr><td>850</td><td></td></tr> <tr><td>700</td><td></td></tr> <tr><td>500</td><td></td></tr> <tr><td>400</td><td></td></tr> <tr><td>300</td><td></td></tr> </table>	LIST	↑	SFC		1000		850		700		500		400		300		Forecast: <table border="1"> <tr><td>ANAL</td><td>↑</td></tr> <tr><td>3</td><td></td></tr> <tr><td>12</td><td></td></tr> <tr><td>18</td><td></td></tr> <tr><td>24</td><td></td></tr> <tr><td>36</td><td></td></tr> <tr><td>48</td><td></td></tr> <tr><td>72</td><td></td></tr> </table>	ANAL	↑	3		12		18		24		36		48		72		Type: <table border="1"> <tr><td>PROD</td><td>↑</td></tr> <tr><td>MAN</td><td></td></tr> <tr><td>ANAL</td><td></td></tr> </table> Format: <table border="1"> <tr><td>RASTER</td><td>↑</td></tr> <tr><td>VECTOR</td><td></td></tr> </table>	PROD	↑	MAN		ANAL		RASTER	↑	VECTOR		<input type="button" value="Replace"/> <input type="button" value="Add"/> <input type="button" value="Clear"/>
LIST	↑																																													
SFC																																														
1000																																														
850																																														
700																																														
500																																														
400																																														
300																																														
ANAL	↑																																													
3																																														
12																																														
18																																														
24																																														
36																																														
48																																														
72																																														
PROD	↑																																													
MAN																																														
ANAL																																														
RASTER	↑																																													
VECTOR																																														

FIGURE 37. Specifying Chart Products

An Area of Coverage must be selected to access the product categories and attributes. Once an area has been selected, one or more attributes from the Levels, Hours, Type, and Format categories can be selected. Selecting all the attributes in one category lists all products for the selected area of coverage.

3.2.6.7.2 Implementing the Chart Product Filter selections.

Once product categories are specified, click on the "Replace", "Add", or "Clear" button to update the product list. The "Replace" button replaces the previously filtered candidate list with a new filtered candidate list. The "Add" button appends the newly filtered candidate list to the previous candidate listing. The "Clear" button clears the previously selected attributes.

For example, to list all products available for an area covering the continental United States (CONUS), select the area name from the Area of Coverage list, specify all the attributes from one of the category lists, then click the "Add" button. The coordinates (latitudes and longitudes) outlining the area are compared with all the available vector and raster products. Products which touch the area are listed as candidate products as illustrated in figure 38. To display only analysis products, select ANAL from the Type list then click the "Replace" button. To clear the displayed product list, select the "Clear" button to clear the filter attributes, then click the "Replace" button.

Select From Product Options ...

Name	Description
AHH08X90	- VECTOR NH 1000-500MB THKMS ANAL
ASNH	- RASTER SFC ANAL
ASNH	- VECTOR NH PRELIMINARY SFC ANAL
AUNH0790	- VECTOR NH 700MB PLOT/GPH/TMP/DPD
AUNH0890	- VECTOR NH 850MB PLOT/GPH/TMP/DPD
AUNH0590	- VECTOR NH 500MB PLOT/GPH/VRT/VRTA
AUNH0590	- VECTOR NH 500MB PLOT/GPH/TMP/ISOTACH
AUNH0790	- VECTOR NH 700MB ISOTACH/OMG ANAL
AUNH0890	- VECTOR NH 850MB ISOTACH ANAL

Est. Data Transmission Time: 0 min.

☒ ☒ ☒

FIGURE 38. List of Chart Products

3.2.6.7.3 Adding Chart Products selections to the Summary List.
To move products to the Product Selection Summary list, select candidate products from the product list and click on the "OK" button as illustrated in figure 39. Multiple selections are made by pressing the Shift or Control keys while selecting with the mouse. Pressing the "Cancel" button closes and clears the Chart Product Selection dialog without updating the Product Selection Summary list.

Chart Product Selection

Select Area:

Levels:

Forecast:

Type:

Format:

Select From Product Options ...

Name	Description
AHH08X90	- VECTOR NH 1000-500MB THKMS ANAL
ASNH	- RASTER SFC ANAL
ASNH	- VECTOR NH PRELIMINARY SFC ANAL
AUNH0790	- VECTOR NH 700MB PLOT/GPH/TMP/DPD
AUNH0890	- VECTOR NH 850MB PLOT/GPH/TMP/DPD
AUNH0590	- VECTOR NH 500MB PLOT/GPH/VRT/VRTA
AUNH0590	- VECTOR NH 500MB PLOT/GPH/TMP/ISOTACH
AUNH0790	- VECTOR NH 700MB ISOTACH/OMG ANAL
AUNH0890	- VECTOR NH 850MB ISOTACH ANAL

Est. Data Transmission Time: 4 min.

☒ ☒ ☒

FIGURE 39. Adding Manual/Model Products to the Summary List

3.2.6.8 Specifying Weather Bulletins. The Weather Bulletins request will return the latest weather bulletin update. To select weather bulletins files, use the Weather Bulletins Options Filter to display the list of bulletins as illustrated in figure 40.

Weather Bulletin Selection

Bulletin Options Filter

Locations:

- TROP
- CONUS
- EUROPE
- ASIA
- NH
- WH
- MISC
- SH

Type:

- DISC
- HAZARD
- MISC
- METSAT
- FCST
- RAREP
- XRCISE
- OBS

Select From Bulletin Options ...

Name	Description
------	-------------

Est. Data Transmission
0 min.

OK CANCEL [Close]

FIGURE 40. Weather Bulletins Selection

3.2.6.8.1 Specifying Weather Bulletins Options Filter. Selecting specific weather bulletin attributes generates a list of bulletins meeting those criteria. Bulletin categories available for selection are Locations (area of coverage) and Type. Several attributes may be selected from each category or from both. Specifying all the attributes from one category will list all available bulletins as illustrated in figure 41.

Bulletin Options Filter

Locations:

- CONUS
- EUROPE
- ASIA
- NH
- WH
- MISC
- SH
- EU

Type:

- DISC
- HAZARD
- MISC
- METSAT
- FCST
- RAREP
- XRCISE
- OBS

OK CANCEL [Close]

FIGURE 41. Weather Bulletins Options Filter

3.2.6.8.2 Implementing Weather Bulletins Filter selections.
Once weather bulletin attributes have been specified from the different categories, use the "Replace", "Add", or "Clear" buttons to update the bulletin list. Selecting the "Clear" button clears the bulletin attributes as illustrated in figure 42.

FIGURE 42. Implementing Weather Bulletins Filter Selections

3.2.6.8.3 Adding bulletin selections to the Summary List.
Highlighting candidate bulletins and clicking on the "OK" button moves the selected bulletins to the Product Selection Summary List and clears the Weather Bulletin Selections dialog. Selecting the "Cancel" button closes and clears the Weather Bulletin Options dialog without updating the Product Selection Summary List as illustrated in figure 43.

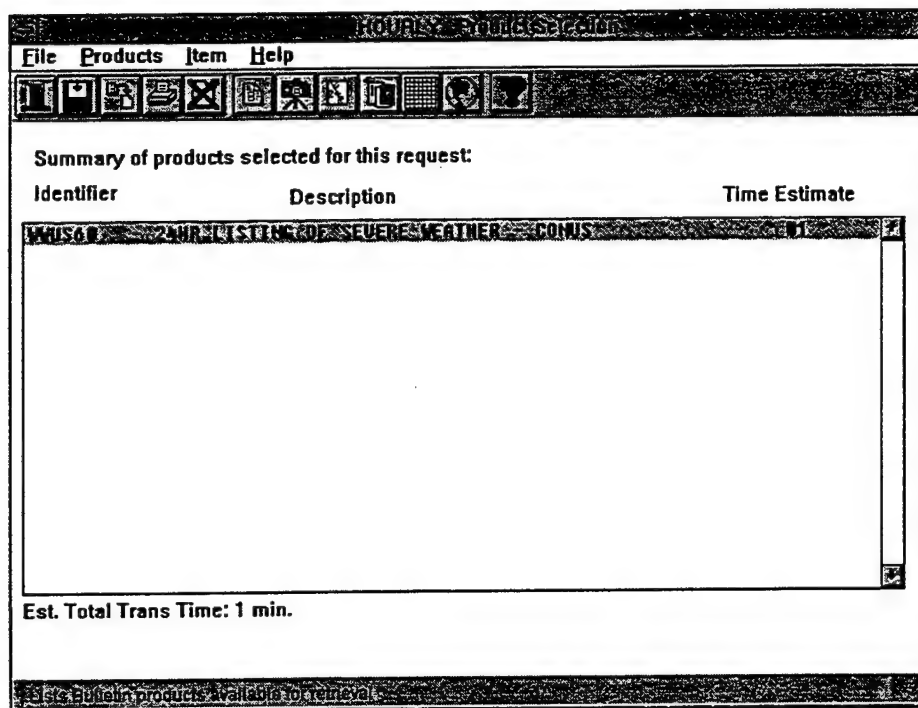


FIGURE 43. Adding Weather Bulletin Selections

3.2.6.8.4 Weather Bulletin selection rules. A limit of fifty bulletins per request is imposed.

3.2.6.9 Specifying SGDB Images. To retrieve SGDB images, an area over the earth must be selected using the Area of Coverage list box. The area should be as specific as possible to reduce retrieval time. New Areas of Coverage may be created by opening the Area Definition window with the "New" button. Once an area of coverage has been selected, three image attributes are available for selection: Image file size (color levels), Sensor Type, and Display (Image Zoom) Factor.

The Image file size attribute selects the number of the image color levels - 16 or 64. SGDB images have a maximum color depiction of 64 grey shades. Selecting 16 color levels decreases the available grey shades from 64 to 16. This causes the image clarity to be significantly decreased but also decreases the file size. Users with poor data communication services or with processors having limited graphic capability (i.e., monochrome monitors) should consider using the 16 color selection. The sensor types available for selection are Infrared (IR) or Visual (Vis). The SGDB data base receives, decodes and stores selected Defense Meteorological Satellite Program (DMSP) and National Oceanic and Atmospheric Administration (NOAA) satellite data

passes including both IR and VIS. IR data are updated twice as often as VIS data due to the available sunlight. The standard GOES MB and BD enhancement curves are available for infrared display. Reference 3.2.13.1.3.5 for more information.

The Image Zoom factor attribute greatly affects Image file size and display appearance. Zoom factors are determined using decimation which destroys the original Image and reduces the Image size. Clarity is not affected but the display area of the image is increased. An image with a 8:1 Zoom factor (3.5 nautical mile (nm) resolution) over an area the size of the CONUS results in a file size of nearly one Mbyte before compression. An image with a 4:1 Zoom (7 nm resolution) decimates or destroys every other image pixel, decreasing the file size to one fourth the original file size. The 2:1 (14 nm resolution) and 1:1 (28 nm resolution) Zoom factors continue to delete data pixels thus decreasing the file sizes. Note that at a 1:1 zoom factor an SGDB image of the CONUS is approximately 16 Kbytes versus 1 Mbyte at an 8:1 zoom factor image.

It is recommended that users try several retrievals to determine the best Zoom factor and color attributes for the particular communication service and display capability. If a small area can be defined (i.e., four corners region) then a 8:1 Zoom factor image with 64 colors may be transferable even with poor communication services.

Clicking the "OK" button saves the selection to the Product Selection list; clicking the "Cancel" button does not save the changes. See figure 44.

SGDB Grids [Image] Data Selection

Area of Coverage:
RWM EUROPE
New Show

Image File Size:
☐ Small - 16 Colors
☒ Large - 64 Colors

Sensor Type:
☒ Infrared
☐ Visual

Display Factor:
☐ Zoom 8
☒ Zoom 4
☐ Zoom 2
☐ Zoom 1

Est. Data Transmission Time: 1 min.

OK Cancel

FIGURE 44. Specifying SGDB Images

3.2.6.10 Specifying Assorted Picture Products. Picture products are produced either by an SDHS display console or the High Resolution Image Scanner. Previous coordination with the AFGWC Duty Officer is required to predefine product type, location, and filenames to be used for storage and retrieval.

3.2.6.10.1 Adding Predefined Scanned (Picture) Products. To view a list of predefined Scanned Picture Products, select Products Picture Data List Selection from the menu. Highlighting candidate scanned products and clicking on the "OK" button moves the selected products to the Product Selection Summary List as illustrated in figure 45.

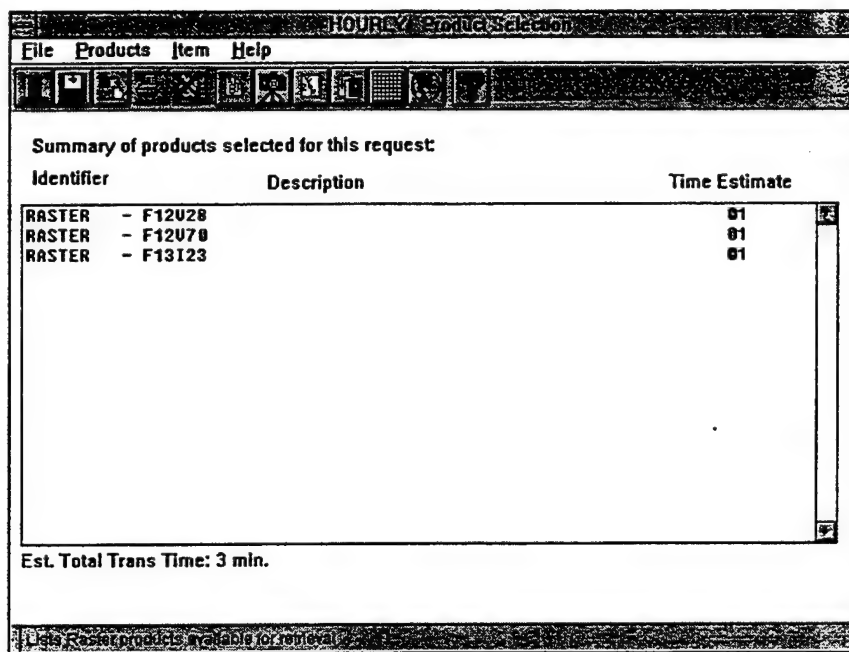


FIGURE 45. Adding Predefined Scanned Products

Multiple selections are made by pressing the Shift or Control keys while selecting with the mouse as illustrated in figure 46.

Available Picture Products:

Name	Content	
K03WIND24	300MB WINDS	- 24HR
K03WIND36	300MB WINDS	- 36HR
K04WIND24	400MB WINDS	- 24HR
K04WIND36	400MB WINDS	- 36HR
K07WIND24	700MB WINDS	- 24HR
K07WIND36	700MB WINDS	- 36HR
K0E024	E-0 W/THRESHOLDS	- 24HR
K0E036	E-0 W/THRESHOLDS	- 36HR
K0LLWS24	LOW-LEVEL WIND SHEAR	- 24HR
K0LLWS36	LOW-LEVEL WIND SHEAR	- 36HR
K0MICR36	MICROBURST INDEX	- 36HR
K0SNOW24	24HR SNOW ACCUM (INCHES)	- 24HR
K0TCHG24	SFC TEMPERATURE CHG (12-24HR)	- 24HR
K0TCHG36	SFC TEMPERATURE CHG (12-36HR)	- 36HR
K0TEMP24	SFC TEMPERATURE	- 24HR
K0TEMP36	SFC TEMPERATURE	- 36HR

Est. Data Trans.
3 min.

FIGURE 46. Selecting Multiple Scanned Products

Pressing the "Cancel" button closes and clears the Scanned Products Selection dialog without updating the Production Selection Summary List.

3.2.6.10.2 Adding Undefined Scanned Picture filenames. To enter a Scanned Picture filename, open the Picture Data Selection window by selecting Products Picture Data entry from the Product Selection window, place the cursor in the Picture Data Selection Enter text box either by mouse or by keyboard entry. Then enter the product filename, press the "Enter" key or select the "ADD" button as illustrated in figure 47.

Picture Data Selection

Enter: ANYNAME

Selected: F12V28
F12V70

Estimated Data Transmission Time: 2 min.

FIGURE 47. Adding Undefined Scanned Product Filenames

3.2.6.10.3 Deleting filenames from selection. To delete an entry from the Selected list, highlight the product filename and select the "Delete" button. The product filename will be deleted from the list as illustrated in figure 48.

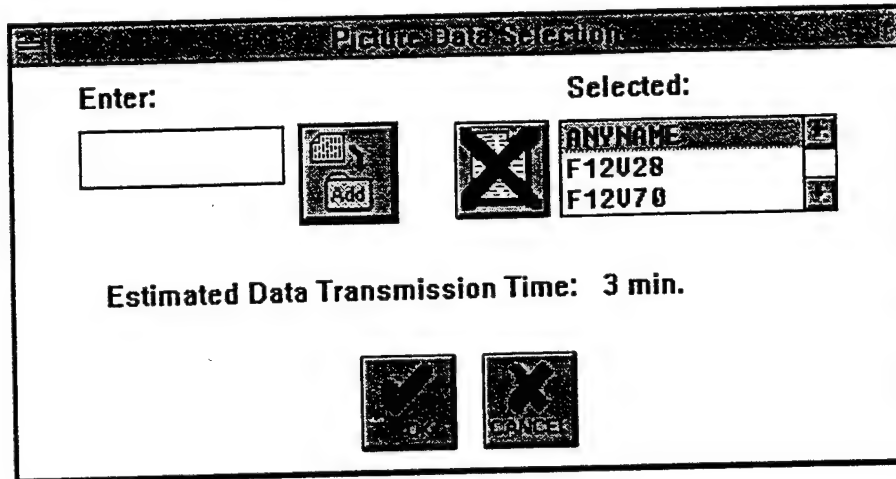


FIGURE 48. Deleting Scanned Product Filenames

3.2.6.10.4 Adding Scanned Picture Entries to the Summary List. Complete entering the picture filenames and select the "OK" button. This moves the picture filenames to the Product Selection Summary List as illustrated in figure 49. Selecting the "Cancel" button closes and clears the Picture Data Selection dialog without updating the Product Selection Summary List.

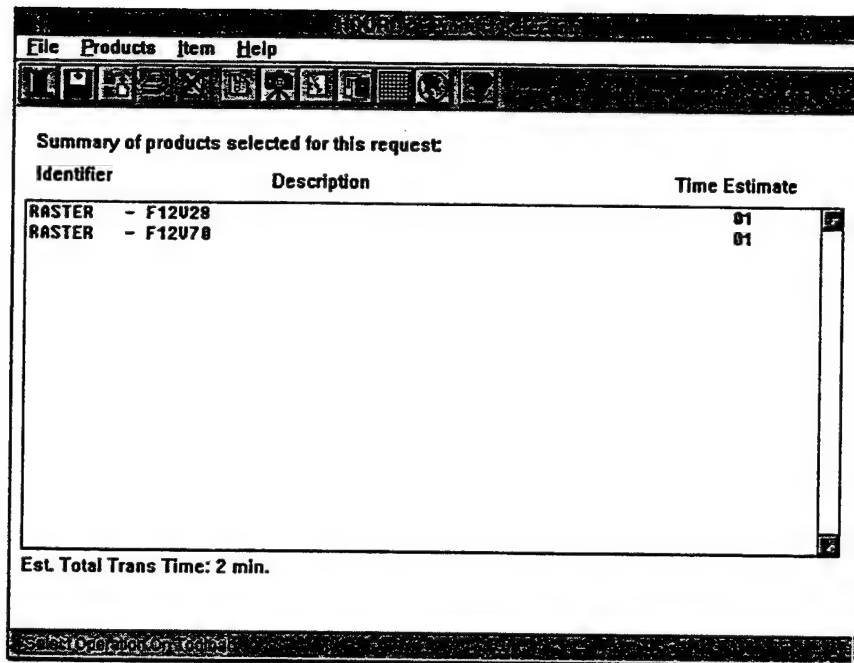


FIGURE 49. Adding Scan Picture Selections

3.2.6.10.5 Raster Product and Scan selection rules. Because picture and scan products are relatively large in size, a limit of 15 raster images per request is imposed.

3.2.7 Area Define window. The Area Define window creates areas of coverage used to clip vector products, gridded data, and SGDB imagery as illustrated in figure 50. Each area defines the necessary information for the AFDIS host computer to retrieve, edit, and clip large hemispheric products into smaller, more transferable areas of coverage. The Area Define window creates the areas which are then listed by the SGDB Grid Selection, Chart Product Selection, and Grid Product Selection dialogs.

New area definitions can be created by selecting the "New" button in these windows. Select the "Show" button to see a map display of the selected Area of Coverage.

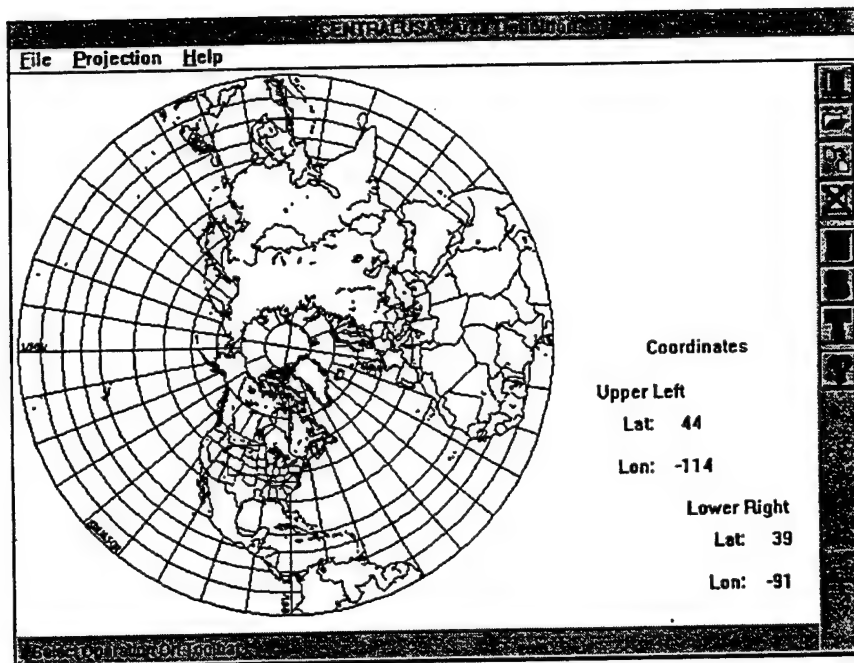


FIGURE 50. Area Editor Display

3.2.7.1 Area Define File menu. The Area Define File menu contains a File menu with options: Open, SaveAs, Delete, and Exit as illustrated in figure 51.

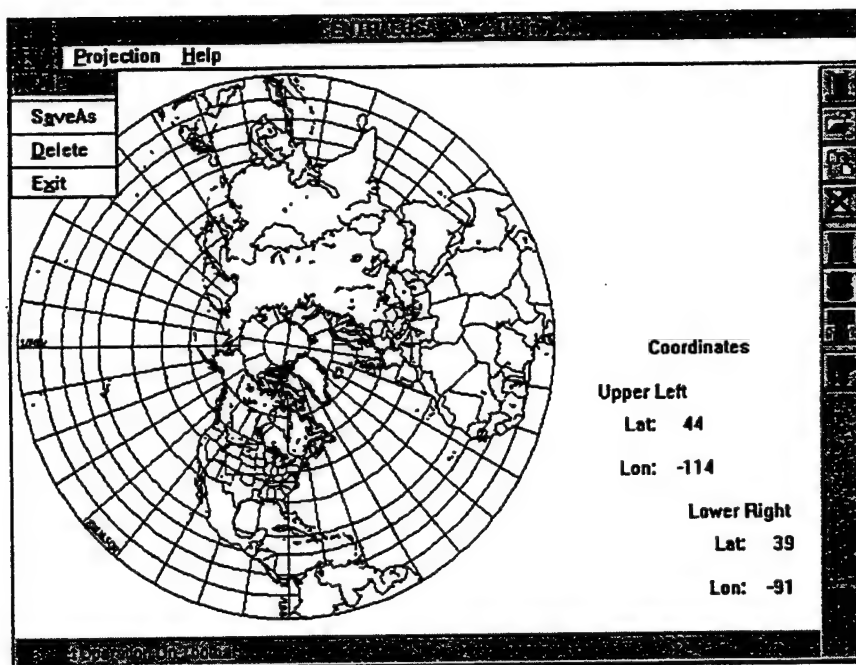


FIGURE 51. Area Editor File Menu

3.2.7.1.1 File Open Area menu. To open a previously created area, select the File Open menu option. The File Open dialog will display a list of areas as illustrated in figure 52. Highlight and select an area name. Once selected the area name will be displayed, the box relocated to the area coordinates, and the area corner coordinates displayed.

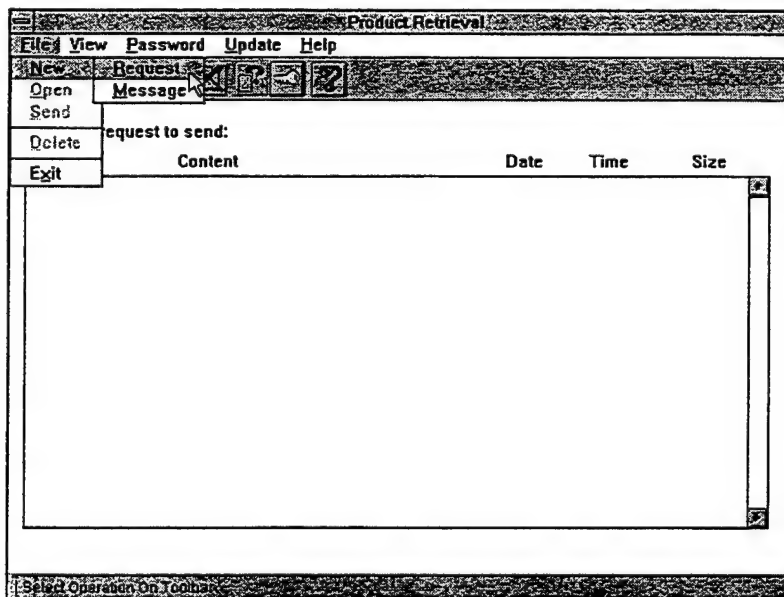


FIGURE 52. Opening an Area

3.2.7.1.2 File SaveAs Area menu. The File SaveAs option saves the current area as a renamed area. When selected, the SaveAs dialog will appear. Enter an area name which consists of up to 12 printable ASCII characters including blank spaces. To duplicate an area, select File SaveAs to store the currently open area with a different area name.

3.2.7.1.3 File Delete Area menu. The File Delete Area option deletes the currently open area file. The File Delete dialog will appear requesting confirmation of the delete. A deleted area cannot be recovered. Creating a new area with the same coordinates is the only option to replace a deleted area.

3.2.7.1.4 File Exit Area menu. Use the File Exit selection to exit the Area Define window.

3.2.7.2 Area Define Projection menu. The Area Define Projection menu is used to select the product projection space. Northern and southern hemispheres, and tropical projections are available. Select the appropriate projection to define an area of coverage for product clipping retrieval.

3.2.7.2.1 Northern hemisphere projection. Select northern hemisphere to create areas of coverage which exceed 40° north. Most Manual, Global Spectral Model (GSM), and Relocatable Window Model (RWM) products are available for this projection.

3.2.7.2.2 Southern hemisphere projection. Select southern hemisphere to create areas of coverage which exceed 40° south as illustrated in figure 53. Note: Limited Southern Hemisphere products are supported (these products are available by special request only).

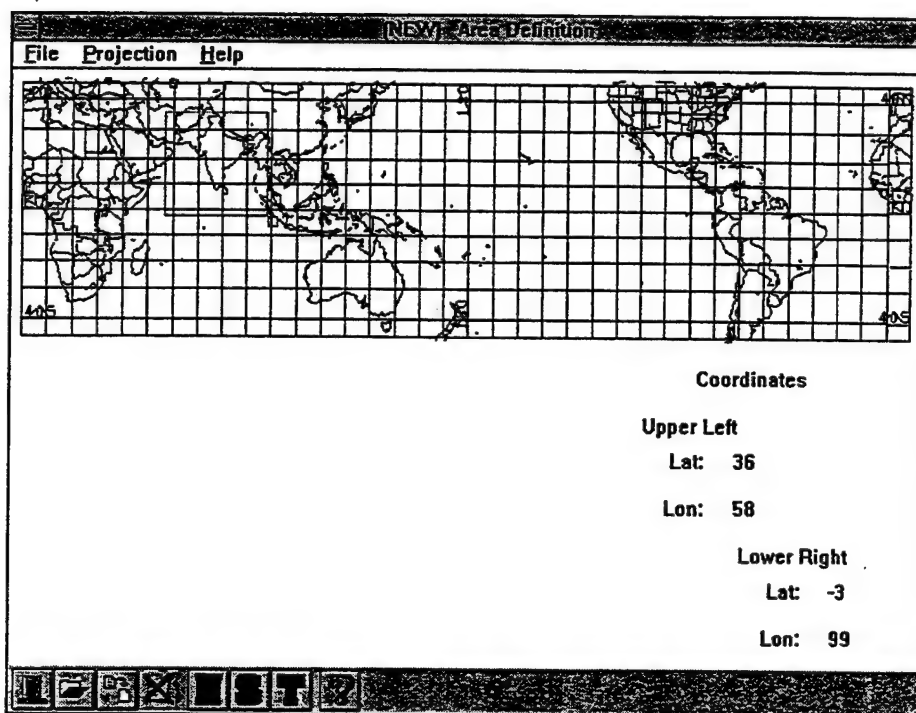


FIGURE 53. Southern Hemisphere Projection

3.2.7.2.3 Tropical projection. Select tropical to create areas of coverage crossing the equator. Note: Tropical projection covers 40° north to 40° south.

3.2.7.3 Specifying Areas of Coverage. If an Area of Coverage is selected in the Product Selection dialog, the area specified is displayed. If a new area of coverage is specified, a new area is created. Use the Projection menu option to select the tropical or southern hemisphere projections. An Area of Coverage box is drawn on the projection and upper left and lower right corner coordinates are displayed. It is recommended to be very specific when creating the Area of Coverage to be used for SGDB images and limit the area to only that needed. SGDB data retrievals can be very large and prohibitive to download due to size.

3.2.7.3.1 Area of Coverage manipulations. Using the mouse is the easiest way to manipulate the Area of Coverage box to move, enlarge, or shrink the area. However, rectangle menu options and arrow keys are provided for box manipulation using keyboard interaction if a mouse is not available. To move an Area of Coverage box, move the mouse cursor to the middle of the area box then click and hold the mouse button while dragging the box. Release the mouse button to drop the area of coverage box on the background projection space.

Pressing the up/down/right/left arrow key(s) will move the box in the indicated direction. Holding an arrow key down will rapidly move the box. To enlarge or shrink the Area of Coverage box, hold the shift key while pressing an appropriate arrow key. The Area handle will move in the direction indicated by the arrow key. For example, pressing the shift key and the up arrow key simultaneously will move the Area handle up, decreasing the Area of Coverage box.

To enlarge or shrink an Area of Coverage box using a mouse, click and hold the area handle and drag out or in.

3.2.7.3.2 Saving new Areas of Coverage. Once the Area of Coverage box is located, select the File SaveAs menu option, and enter an area name. The area name will be used for product selection by the three selection dialogs.

3.2.7.3.3 Viewing previously saved Areas of Coverage. To view a previously saved area, select the File Open menu option then select the area name. The area box will be drawn on the projection space. Note: Areas cannot be modified once saved. Deleting the current area and creating a new area with new lat/lon values is the only method to change the Area of Coverage.

3.2.7.3.4 RWM Areas of Coverage. The RWM windows Areas of Coverage are defined by the AFDIS System Administrator at AFGWC. When RWM windows are relocated, the RWM product list is updated with the new window coordinates. AFDIS request packets which reference an outdated RWM window may return either a status of "Unavailable" or empty data files. The AFDIS user will be presented only the most current RWM windows at any time.

After the AFDIS user receives notification of an RWM update, the user can use the Area Define window to display the location of the relocated windows. AFDIS mail or system messages may provide further notice of RWM product availability and changes.

Note: Due to the dynamic nature of the RWM window locations, it is recommended the AFDIS user generate request files containing only RWM products. After update notification, only these RWM requests need modification.

3.2.7.3.5 Area Definition window toolbar. The Area Definition window toolbar options include: Exit, Open, SaveAs, Delete, Northern Projection, Southern Projection, Tropical Projection, and Help buttons. Refer to figure 54.



FIGURE 54. Area Definition Window Toolbar

3.2.7.3.6 Define Area window error messages. Following is a list of the Define Area window messages:

Filename already exists, Please select another name.

Cannot Delete an RWM area

3.2.8 Message Display window. The Message Display window provides the capability to create, edit, and view messages. Messages sent to AFGWC are routed automatically to AFGWC Duty Officers. Messages sent to remote users contain AFDIS system information, e.g., downtime, upgrades, and operational messages, etc., at the discretion of AFGWC, and are broadcast to all users. The Message Display window should NOT to be used for classified or non-routine messages, i.e., emergency implementations.

3.2.8.1 Message Display window File menu. The Message Display window contains a File menu with the following options: Open, Save, SaveAs, Print, Delete, Import, and Export, or Exit. Refer to figure 55.

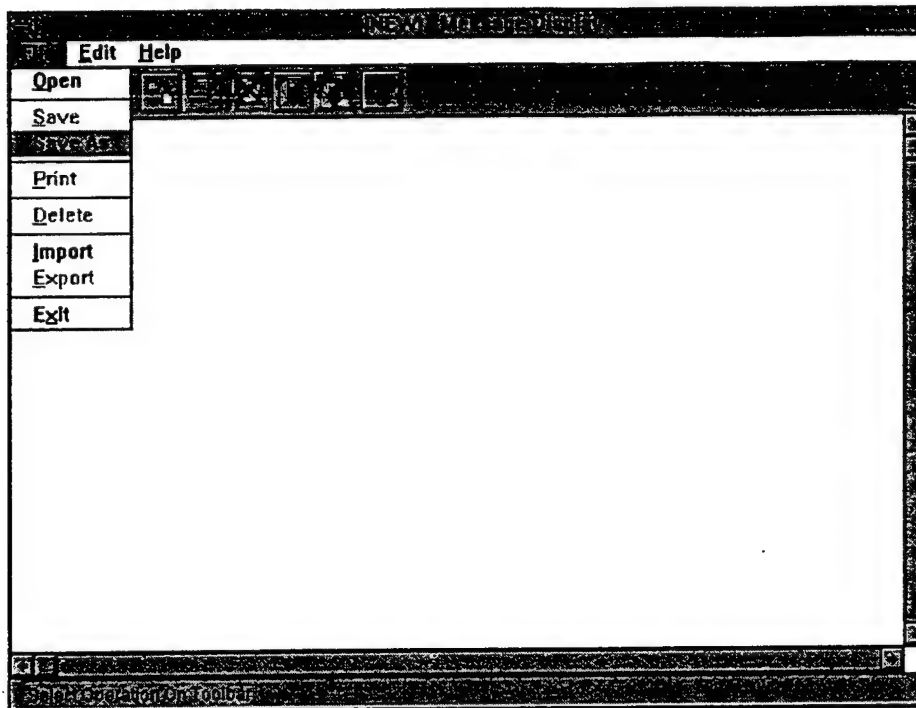


FIGURE 55. Message Display Window File Menu

3.2.8.1.1 File Open Message menu. Selecting the File Open menu option opens an existing message. The File Open dialog will appear. Select a message file from the message list and select the OK button. The Message Display window will appear with the file displayed.

3.2.8.1.2 File Save Message menu. The File Save option saves an existing, open message file.

3.2.8.1.3 File SaveAs Message menu. The File SaveAs Message menu option provides the capability to store the current message as a different message filename. When selected, the SaveAs dialog will appear. Enter a filename which contains up to 12 printable, non-blank ASCII characters. Note that a blank message cannot be saved. Refer to figure 19.

3.2.8.1.4 File Print Message menu. The File Print Message menu option sends the current, open message to the printer.

3.2.8.1.5 File Delete Message menu. The File Delete Message menu option deletes the currently open message. The Delete dialog will appear requesting confirmation of the delete as illustrated in figure 19. To delete multiple messages with a single action, use the File Manager window.

3.2.8.1.6 File Import Message menu. The File Import message menu option imports a text file into the Message Display window.

The File Open dialog will request the filename and path for the file to be imported as illustrated in figure 56. The drive, directory, file and file type can be selected from the list boxes. Note: Only text files comprised of ASCII printable characters can be imported.

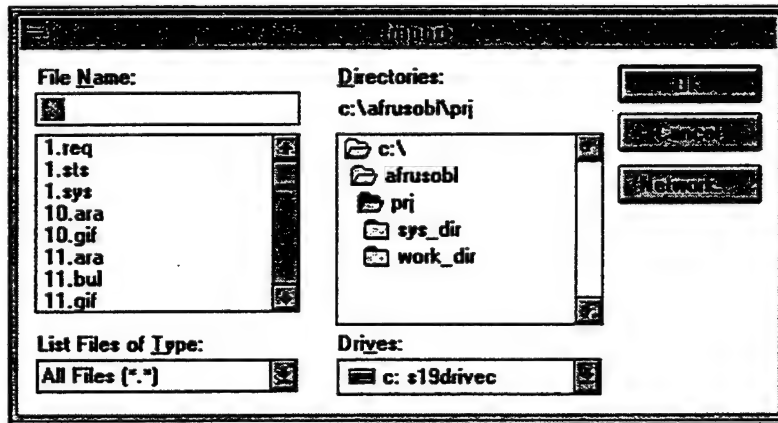


FIGURE 56. File Import Dialog

3.2.8.1.7 File Export Message menu. The File Export Message menu option exports message files in ASCII text format. This capability permits use of text files by other application software, e.g., Microsoft Notepad. Refer to figure 83. The drive, directory, filename and file type can be selected from the list boxes.

3.2.8.1.8 File Exit Message menu. Use the File Exit Message menu option to exit the Message Display window and return to the Main menu.

3.2.8.2 Message Display window Edit menu. The Message Display window Edit menu provides an edit capability to Cut, Copy, Paste, and Delete text as illustrated in figure 57. In addition, the editor uses the GUI clipboard, which can be used to cut and paste text, and is fully compatible with other software applications.

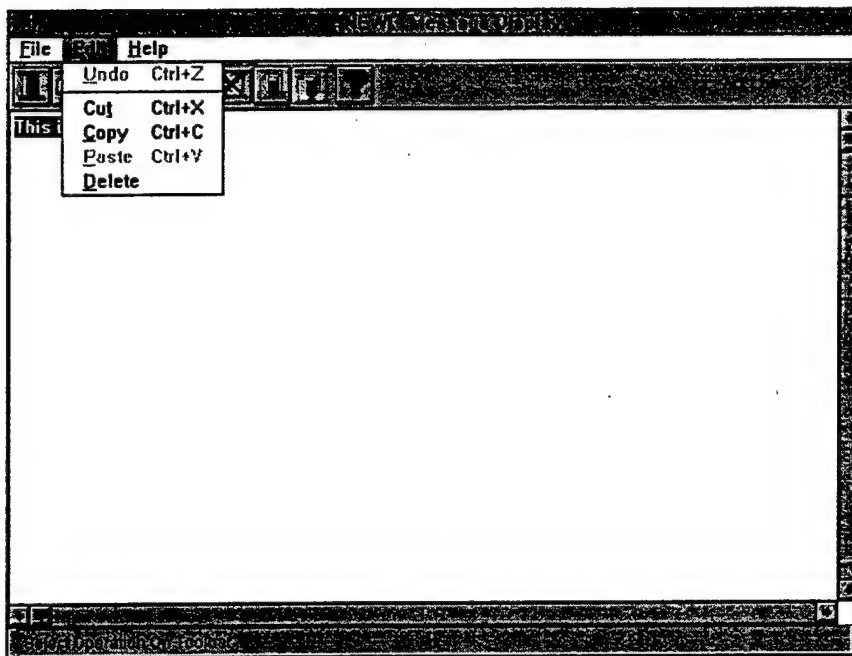


FIGURE 57. Message Edit Menu

3.2.8.2.1 Undo edit option. The Edit Undo option has not been implemented and is not a valid option.

3.2.8.2.2 Cut to clipboard option. The Edit Cut option removes selected text from the display window and places the selected text in the clipboard.

3.2.8.2.3 Copy to clipboard option. The Edit Copy option copies selected text from the display window and places the selected text in the clipboard.

3.2.8.2.4 Paste from clipboard option. The Edit Paste option copies the clipboard contents and inserts the contents into the message at the cursor's location.

3.2.8.2.5 Delete selection option. The Edit Delete option deletes selected text from the message.

3.2.8.3 Messages operations. Upon entry to the Message Display window, the selected message will be displayed. Use the keyboard to enter text and use the clipboard to cut, copy, and paste text. Any printable text data can be imported which provides the capability to insert text into the AFDIS Message Display window. As part of the import operation any non-printable characters are deleted.

Messages must be saved before transmission to AFGWC.

To exit the Message Display window, use the window close bar or select the File Exit option. The Product Retrieval window will be displayed.

3.2.8.4 Message Display window toolbar. The Message Display window toolbar options include: Exit, Open, Save, SaveAs, Print, Delete, Import, Export, and Help buttons. Refer to figure 58.

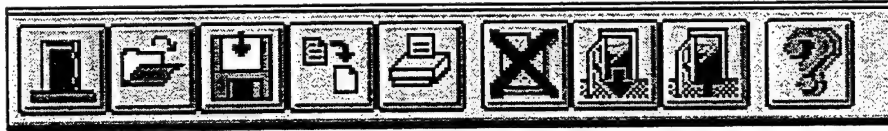


FIGURE 58. Message Display Window Toolbar

3.2.8.5 Message Display window error messages. Following is a listing of the Message Display window error messages:

You must SAVE before performing this operation

Import Error - File does not exist or not in the proper
format

3.2.9 Display Selection window. The Display Selection window provides options to select the various product display categories. These categories include: Raster, Chart and SGDB, text, and grid products.

3.2.9.1 Product Display Selection File menu. The Product Display Selection File menu provides the exit option. Selecting the exit option returns control to the AFDIS - Program Options window.

3.2.9.2 Product Display Selection View menu. The Product Display Selection View menu provides the following options: Raster List, Raster Thumbnail, Raw Charts/SGDB, Text Products, and Grid Converter as illustrated in figure 59.

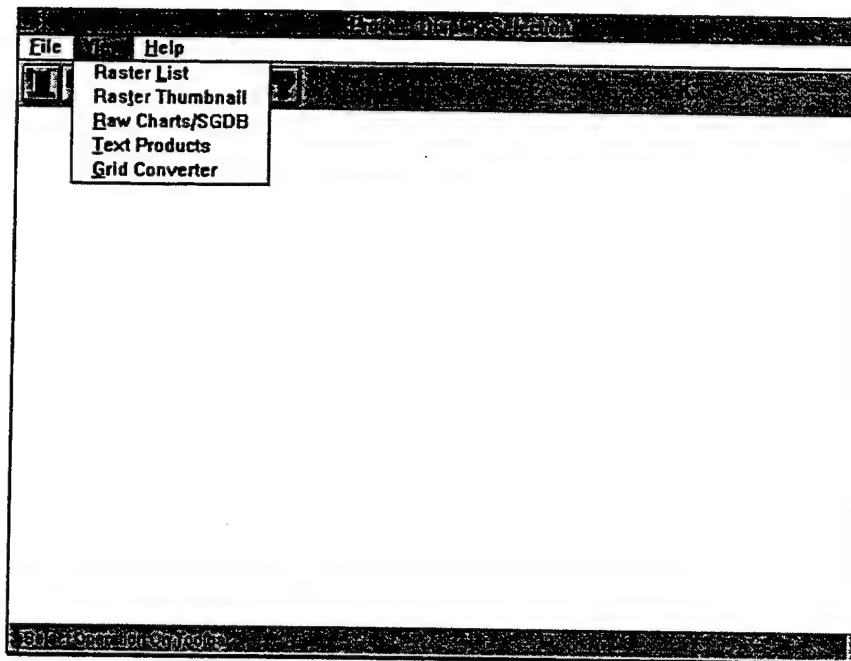


FIGURE 59. Product Display Selection View Menu Options

3.2.9.2.1 View Raster List Display menu. Selecting the View Raster List menu option displays the Picture Product Selection window. Refer to 3.2.10 for a description of the Picture Product Selection window.

3.2.9.2.2 View Raster Thumbnail Display menu. Selecting the View Raster Thumbnail Display menu option invokes the PSP Browser. The PSP Browser searches the current working directory and creates thumbnail icons of all image files. Selecting an icon, then selecting the ImageFile Open in PSP menu option or double clicking the thumbnail icon displays the image in Paint Shop Pro. Multiple images can be selected for display or deletion. Refer to the online Help documentation for further information.

3.2.9.2.3 View Raw Charts/SGDB Display menu. Selecting the View Raw Charts/SGDB menu option displays the Raw Charts (Vector) and SGDB Display window. Refer to 3.2.13 for further information.

3.2.9.2.4 View Text Products Display menu. Selecting the View Text Products menu option displays the Text Product Selection window. Refer to 3.2.15 for further information.

3.2.9.2.5 View Grid Converter Display menu. Selecting the View Grid Converter menu option displays the Grid Conversion window. Refer to 3.2.17 for further information.

3.2.9.3 Product Display Selection Help menu. The Product Display Selection Help menu is used to display help text.

3.2.9.4 Product Display Selection window toolbar. The Product Display Selection window toolbar options include: Exit, Raster, Raster Thumbnail, Charts, Text, Grids, and Help buttons. Refer to figure 60.

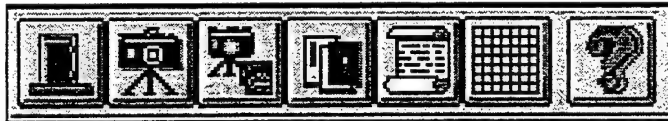


FIGURE 60. Product Display Selection Window Toolbar

3.2.10 Picture Product Selection window. The Picture Product Selection window displays and allows manipulation of raster products and scanned hard copy images. Commercial off-the-shelf image display software is used by AFDIS. The MS Windows version AFDIS 4.0 uses Paint Shop Pro software. The UNIX version AFDIS 3.21 uses XV software. Upon entry to the Picture Product Selection window, the retrieved raster and scanned product files are listed as illustrated in figure 61. Select the product to be displayed using the mouse or keyboard entry.

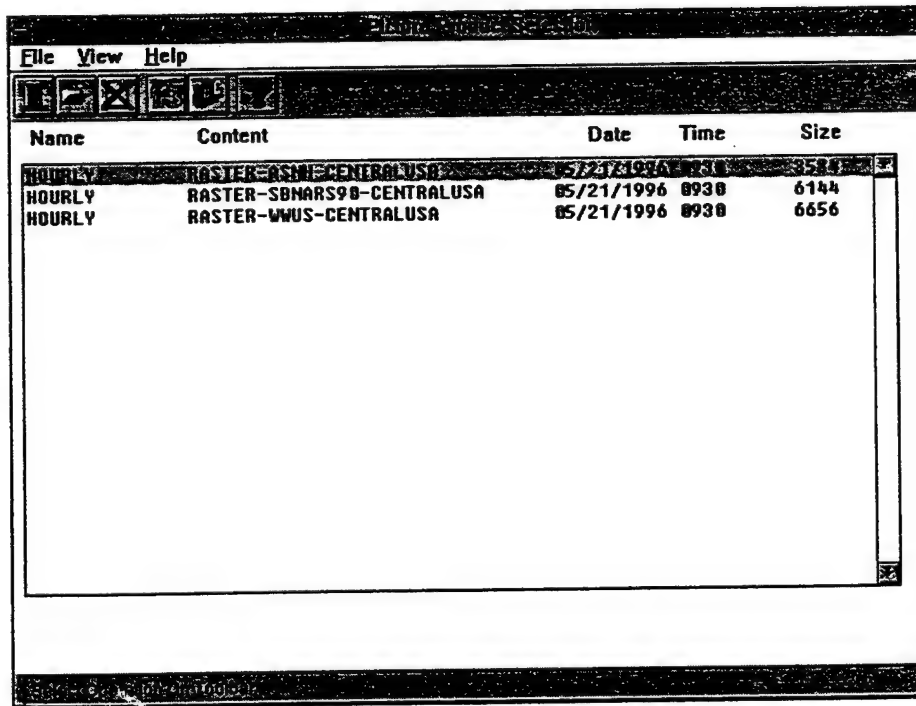


FIGURE 61. Picture Product Selection Window

3.2.10.1 Picture Product Selection File menu. The Picture Product Selection File menu contains the following options: Display, Delete, and Exit.

3.2.10.1.1 File Display Picture Product menu. This option displays the item currently highlighted in the view box.

3.2.10.1.2 File Delete Picture Product menu. This option deletes the item currently highlighted in the view box.

3.2.10.1.3 File Exit Picture Product menu. This option exits the Picture Product Selection window and returns control to the Product Display Selection window.

3.2.10.2 Picture Product Selection View menu. The menu contains the Sort by Item and Sort by Date options.

3.2.10.2.1 View/Sort by Item - /Sort by Date menus. Available files may be ordered alphabetically or by date.

3.2.10.2.2 Picture Product Selection Help menu. The Picture Product Selection Help menu is used to display help text.

3.2.10.3 Picture Product Selection window toolbar. The Picture Product Selection window toolbar options include: Exit, Open, Delete, Sort by Date, Sort by Name, and Help buttons. Refer to figure 62.

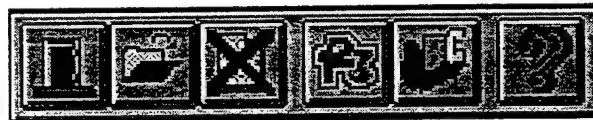


FIGURE 62. Picture Product Selection Window Toolbar

3.2.11 Viewing Picture Products. The MS Windows 4.0 version of AFDIS invokes the Paint Shop Pro software for display and manipulation of images in a Windows environment. Advanced image processing, manipulation, and image conversion features are provided with this package.

The UNIX version of AFDIS uses XV software to display and manipulate images. A wide range of image processing features is available with the XV software.

3.2.11.1 Paint Shop Pro. Paint Shop Pro (PSP) is a commercial off-the-shelf (COTS) package developed by JASC, Inc. See figure 63. AFGWC has purchased a license which permits limited distribution for use with AFDIS only. See appendix G.

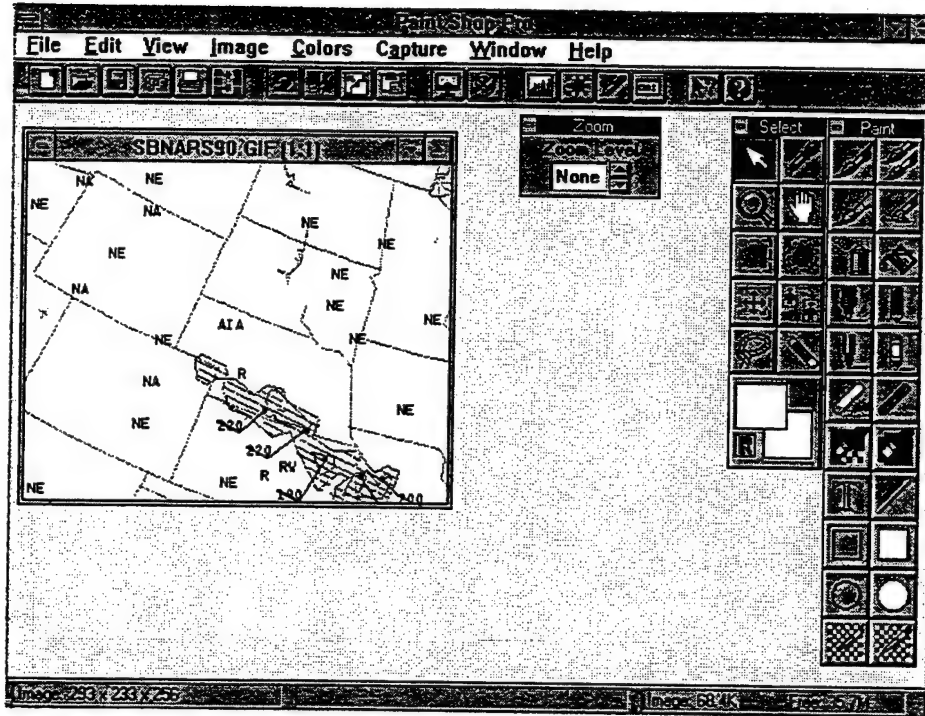


FIGURE 63. Paint Shop Pro Example Display

When the AFDIS Raster Product Display button invokes Paint Shop Pro, the selected product is decompressed and displayed. See figure 63. Menus provide the various image manipulation options to be executed.

3.2.11.1.1 PSP Main window. The PSP Main window consists of five areas: Title bar, Menubar, Toolbar, Workspace, and Status bar. See figure 64 and the subparagraphs below. On-line help is available within the window. Further information is available in the PSP user manual which may be purchased from JASC, Inc. See appendix G.

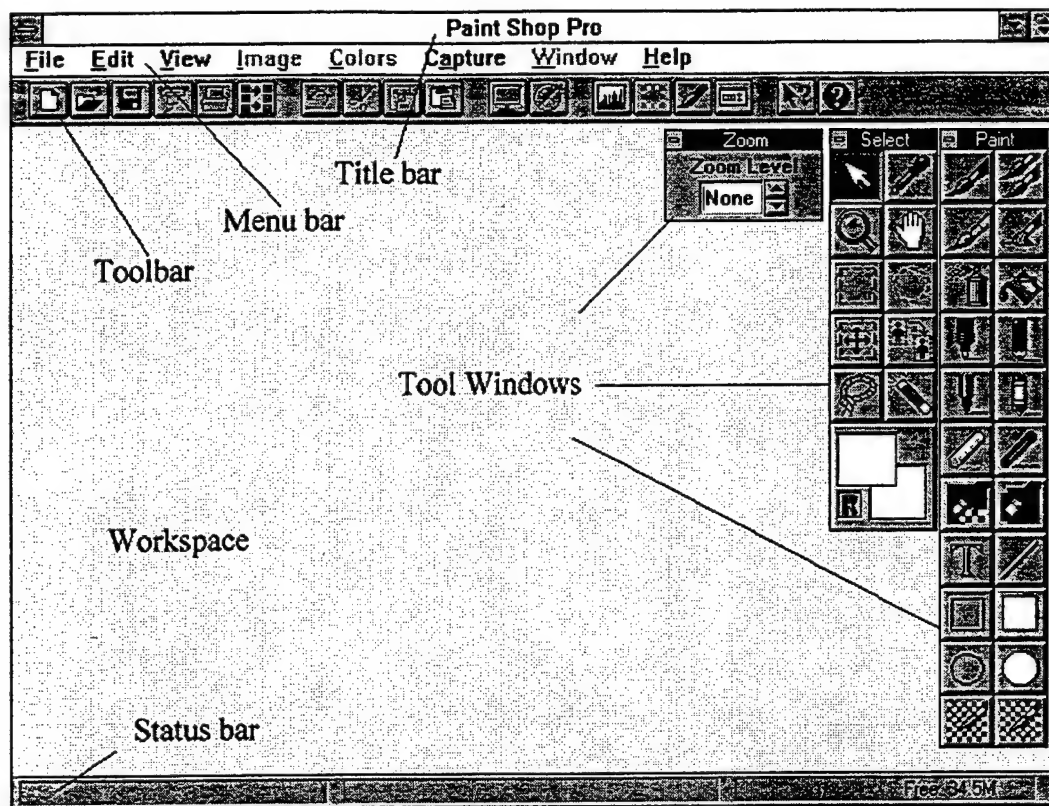


FIGURE 64. Paint Shop Pro Main Window Display Areas

3.2.11.1.2 Title bar. The title bar area at the top of the display contains the Paint Shop Pro title and the standard MS Windows control buttons to minimize, maximize, and close the window.

3.2.11.1.3 Menubar. The menubar lists categorized options in drop down submenus under the main group menu. For example, those actions relating to Files are shown by clicking on the "File" menu item. Displayed items in dark type may be selected. Items 'grayed out' cannot be selected at that time. Information on what each selected item does is displayed in the status bar at the bottom of the screen. Additional information can be obtained by using the Help menu.

3.2.11.1.4 Toolbar. The toolbar is just below the menubar and consists of icons which will perform a specific action when the user clicks on them. When the cursor is placed over the icon, information on each icon is shown in the status bar at the bottom of the screen. On-line help is available by putting the cursor on an icon and pressing the F1 key.

3.2.11.1.5 Workspace. Imagery is displayed in the workspace. The user can manipulate the imagery using the menu items and window tools described below.

3.2.11.1.5.1 Zoom control panel. The zoom control panel allows images to be magnified or reduced. Information on this tool is available in the on-line help under 'zoom tools'.

3.2.11.1.5.2 Select tools. Select tools allow the user to select part of an image; copy part of an image; zoom in/out; select a color for an image; and set foreground/background colors. As the cursor is placed over each select tool icon, a brief description is displayed on the status bar. Additional information is available by placing the cursor on the individual tool and pressing the F1 key to activate the on-line help text.

3.2.11.1.5.3 Paint tools. Paint tools are used to create and edit images. As the cursor is placed over each tool a brief description is displayed on the status bar. Additional information is available by placing the cursor on the individual tool and pressing the F1 key to activate the on-line help text.

3.2.11.1.6 Status bar. The status bar is at the bottom on the Main window. The status bar displays information when the cursor is placed on a menu item or icon. When the cursor is over an image, the left status bar panel displays the image's width, height, and color depth; the middle panel displays information of the current cursor position; and the right panel displays the amount of memory occupied by the image and its undo buffer, and the available memory.

3.2.11.1.7 On-line help. There are several methods of obtaining on-line help.

- a. Click on the Help menu item. To open the Help viewer click on 'Search for help on...' then type the desired subject in the box. The viewer will list matching subjects. Highlight the desired subject then select the Show Topics button. A list of related topics will be displayed in the bottom list box. Click on a topic, then click the 'Go To' button. Information will be displayed. When on-line help text is displayed, some of the words may be highlighted. Placing the cursor on these highlighted words and clicking the mouse will display information on the highlighted word(s).
- b. Place the cursor over any of the specific Paint Shop Pro features and press the F1 key. PSP will then open the help topic and explain what the feature does.
- c. Press the " ? " toolbar icon button. The cursor will now resemble the button. Put the cursor over the feature for which information is desired and click on it.

3.2.11.1.8 Paint Shop Pro troubleshooting. Consult the PSP on-line troubleshooting help topic for further information.

3.2.11.1.9 Exiting back to AFDIS. After viewing the imagery there are several ways to exit back to the AFDIS program.

- a. Select Exit from the File menu.
- b. Press Alt+F4.
- c. Double click the Control box in the Main window.
- d. Select Exit from the Main window control menu.

3.2.12 Overlay Set terms and concepts. To properly use the Raw Charts and SGDB Display window certain terms and concepts relating to the overlay sets must be understood.

3.2.12.1 Overlay Set terminology. An Overlay Set is any of numerous SDHS vector files containing lines, weather symbols, isopleths, etc., expressed as line vectors. A single weather chart may contain one or as many as ten vector overlay files organized into an overlay stack. When overlays which comprise a stack are displayed, they are drawn in sequential order on the display screen. A background item can be either a color or a Satellite Global Data Base (SGDB) image. The background is always displayed first. The Chart Product item is displayed in front of a background. See figure 65.

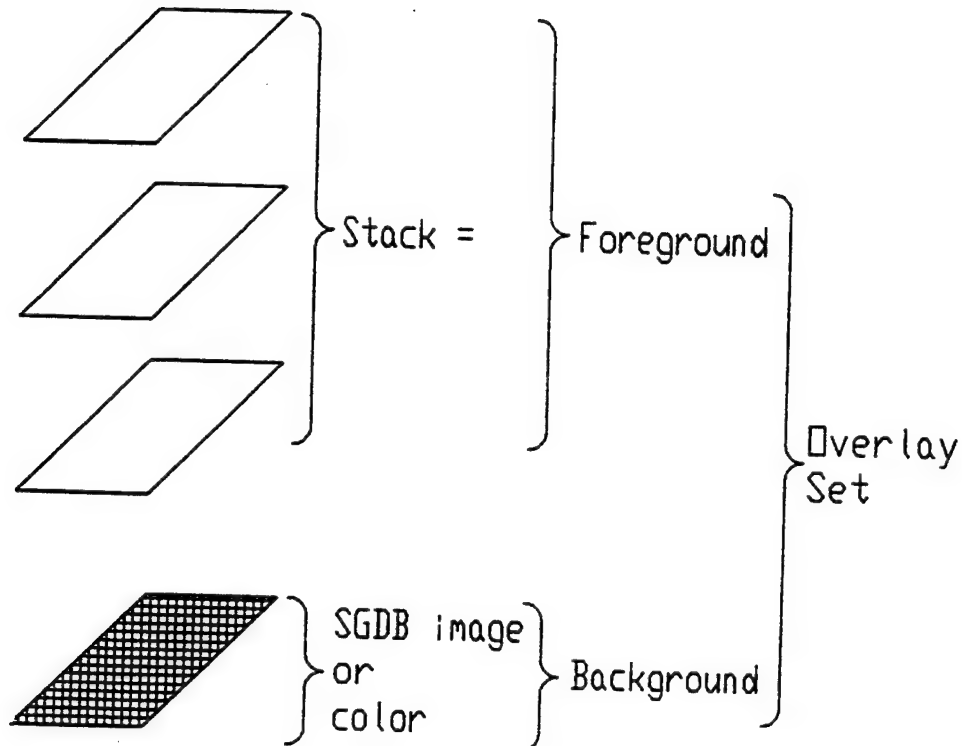


FIGURE 65. Overlay Set - Chart Product and Background Items.

3.2.12.2 Overlay Set display concepts. When more than one overlay is displayed on the screen, they are stacked from top to bottom. The top overlay is closest to the viewer. The bottom overlay is closest to the background. The stacking order is important because data which is higher in the stack obscures data lower in the stack. The viewer sees only the data on the higher overlay. Where there are no vectors, the display is transparent and the user can see through to a lower overlay plane or background. Figure 66 illustrates an example using two stacked overlays (one with a small light colored rectangle in the center and one with a larger dark colored circle and a colored background). Notice the light colored rectangle can be seen since it is stacked on top of the larger circle.

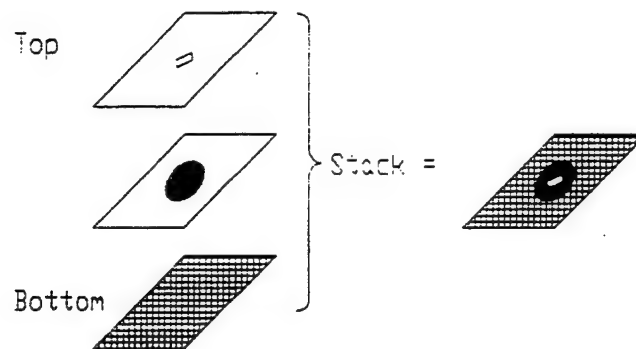


FIGURE 66. Stacking Example 1

If the planes and background are stacked as in figure 67, the light colored rectangle is no longer seen because the dark circle obscures it. See figure 67.

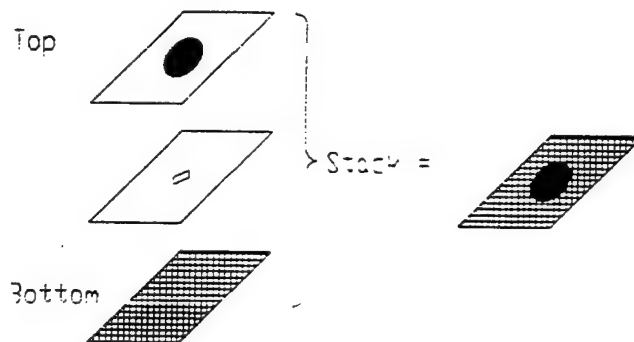


FIGURE 67. Stacking Example 2

3.2.12.3 Overlay Set manipulations. Following is a list of available Overlay Set vector manipulations:

- a. The number of vector items displayable is limited to the available computer memory. This is system dependent (computers with more internal memory can display more data).

- b. Turning overlays on/off.
- c. Changing overlay colors. Sixty-four predefined colors are available.
- d. Changing the display order (stacking) of overlay planes. Overlays can be moved up or down within the stack list.
- e. Deleting or adding overlay items to the Overlay Set.
- f. Adding an SGDB image background or changing the background color. The background can be either colored or an SGDB image, but not both simultaneously. Note: The SGDB image will not cover the whole map area and the area outside the SGDB image will have the default black background.
- g. Overlay Sets can be defined and saved for future display.

3.2.12.4 General Overlay Set creation rules. The following recommendations and rules apply to overlay displays.

- a. It is recommended that there be a projection map when displaying an image or vector. The projection map is automatically added during Chart/SGDB product selection. However, the map plane may be turned off.
- b. Once a Chart/SGDB product has been selected, the display projection is set. Further addition of Chart/SGDB products will only be allowed for items with compatible projections. Switching the selected projection causes the current settings to be reset. A prompt requesting confirmation of this operation is displayed before continuing. This ensures that a product with a tropical projection cannot be displayed over a northern hemisphere projection.
- c. The projection map cannot be deleted until all the Chart/SGDB products have been deleted from the Overlay Set.

The Raw Charts and SGDB Display and the Display Charts Settings windows allow manipulation of the overlay components (vector files, colored backgrounds, SGDB images) using the rules listed above to build, manipulate, save, and display overlay sets. For instance a 500 millibar (mb) height file (blue isopleths) can be stacked on a 700 mb height file (red isopleths), on an 850 mb height file (green isopleths), on a northern hemisphere map of the US (black vectors) and saved as an Overlay Set.

3.2.13 Raw Chart (Vector) and SGDB Display window. The Raw Chart (Vector) and SGDB Display window provides the capability to zoom, rotate, print, scroll, or save the screen as a Bit Map. Note: For good image resolution, ensure that a 640 x 480 x 256K color video driver is installed. Reference the Microsoft Windows User's Guide on installing video drivers. See figure 68.

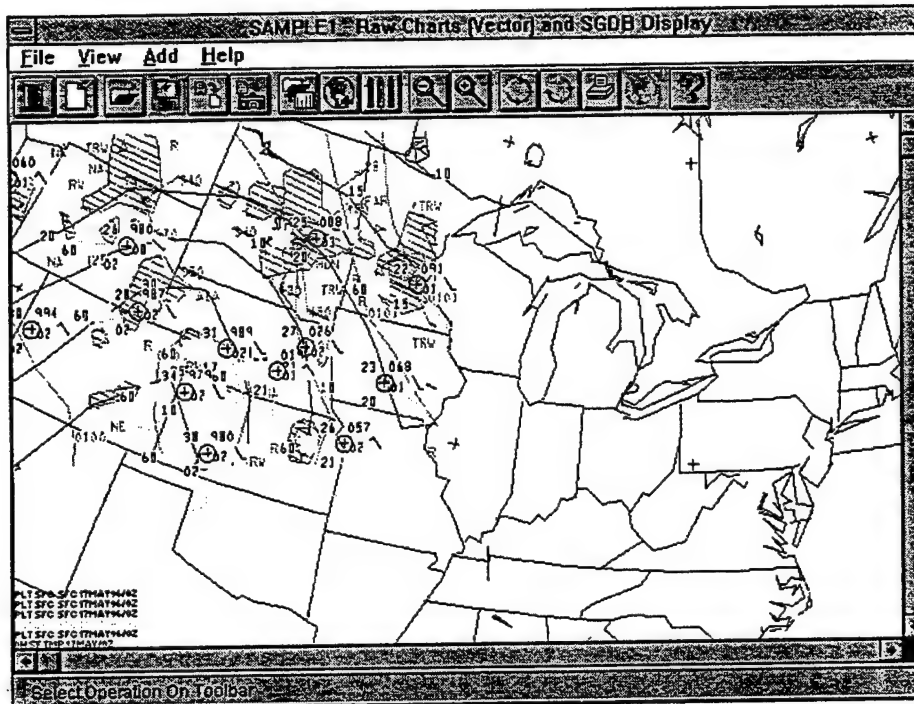


FIGURE 68. Raw Chart (Vector) and SGDB Display Window

3.2.13.1 Raw Chart and SGDB Display window menu. The Raw Chart and SGDB Display window menu contains the File, View, Add, and Help options.

3.2.13.1.1 File menu option. The File menu contains the New, Open, Delete, Save, SaveAs Overlay Set, SaveAs Raster (BMP) (bit map plane), Print Screen, Printer Setup, and Exit options. Refer to figure 69.

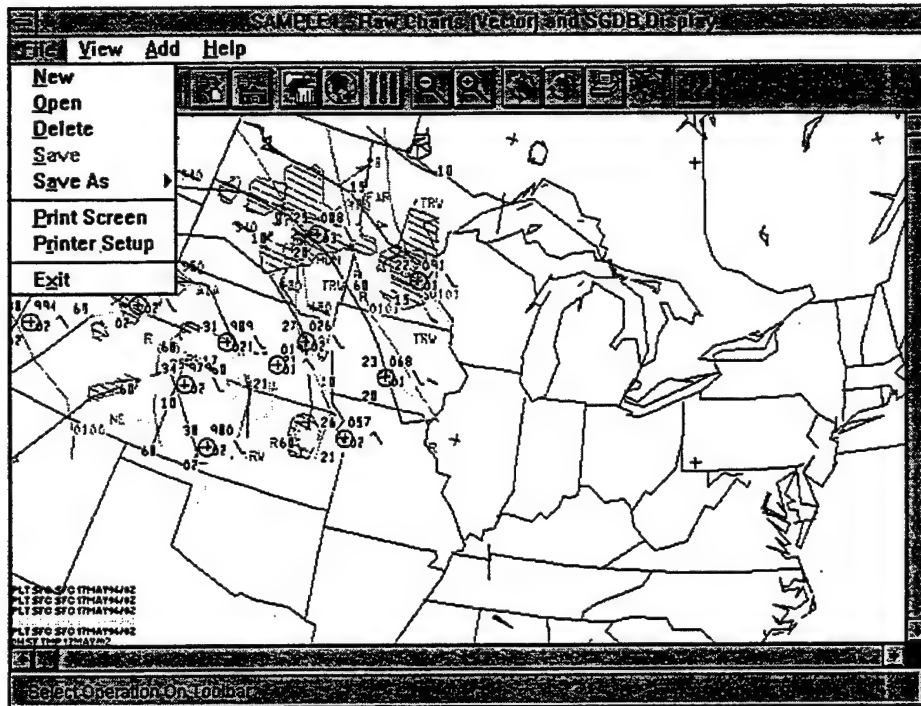


FIGURE 69. Overlay Set Display File Menu

3.2.13.1.1.1 File New Charts menu. Selecting the File New menu option creates a new, empty Overlay Set and blanks the display screen. Chart products may be added and backgrounds changed using menu options and the result may be saved as an Overlay Set. Note that the MS Windows title displays "New" and the File New, File Save, File SaveAs, and File Print options are not available. Adding chart/background products makes these functions available.

3.2.13.1.2 File Open Charts menu. The File Open Charts menu option opens previously saved Overlay Set files. Upon selection, the File Open dialog will be displayed containing a list of available Overlay Sets. Highlight the set to be opened, then press the "OK" button or double click on the selected item. Selecting the "Cancel" button returns the user to the Raw Charts and SGDB Display.

3.2.13.1.2.1 File SaveAs Charts menu. The File SaveAs option allows access to the Overlay Set and the Raster(BMP) submenus.

3.2.13.1.2.1.1 File SaveAs Overlay Set menu. The File SaveAs Overlay Set option saves the Overlay Set with a new filename. Selecting this option displays the File SaveAs dialog. Enter a filename which contains up to 12 printable, ASCII characters. Selecting the "OK" button saves the selected file with the new filename. Selecting the "Cancel" button returns the user to the Raw Chart and SGDB Display window.

3.2.13.1.2.1.2 File SaveAs Raster(BMP) Charts menu. The File SaveAs Raster(BMP) menu allows the user to export the screen display in raster format as a BMP formatted file. When selected the File SaveAs dialog will be displayed. Type a filename of eight or fewer characters with an extension of BMP. Selecting the "OK" button causes the display to be saved to the file "filename.BMP". The Cancel button will close the File SaveAs file without creating the raster file. Refer to figure 70.

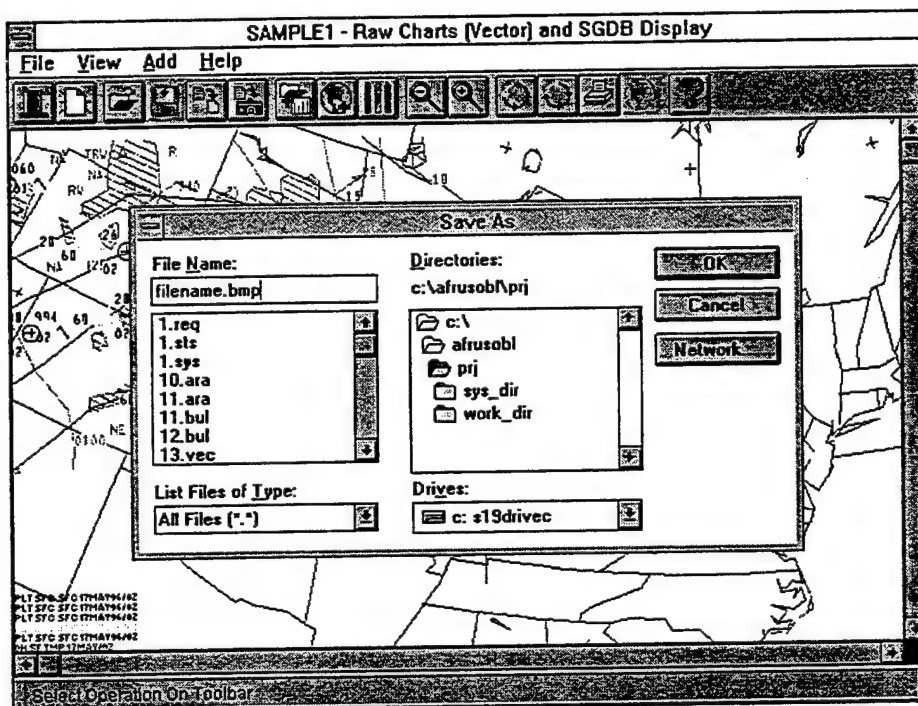


FIGURE 70. File SaveAs Raster(BMP) Dialog

The saved Raster(BMP) may now be displayed and drawn upon using the Paint Shop Pro software.

3.2.13.1.2.2 File Print Screen Charts menu. The File Print Screen menu option sends a current display screen to the printer.

3.2.13.1.2.3 File Printer Setup Charts menu. The File Printer Setup menu option provides a means to modify printer parameters. The Print Setup dialog uses the standard MS Windows Print Setup dialog. Consult the MS Windows User's Manual for more information.

3.2.13.1.2.4 File Exit Charts menu. The File Exit menu option exits the Raw Charts and SGDB Display and returns to the Product Display Selection window.

3.2.13.1.3 Raw Charts and SGDB Display View menu. The Raw Charts and SGDB Display View menu contains the following options: Display Settings, Normal, Zoom, Rotate, IR Enhancement Table, SGDB Box Times, and Legends. Refer to figure 71.

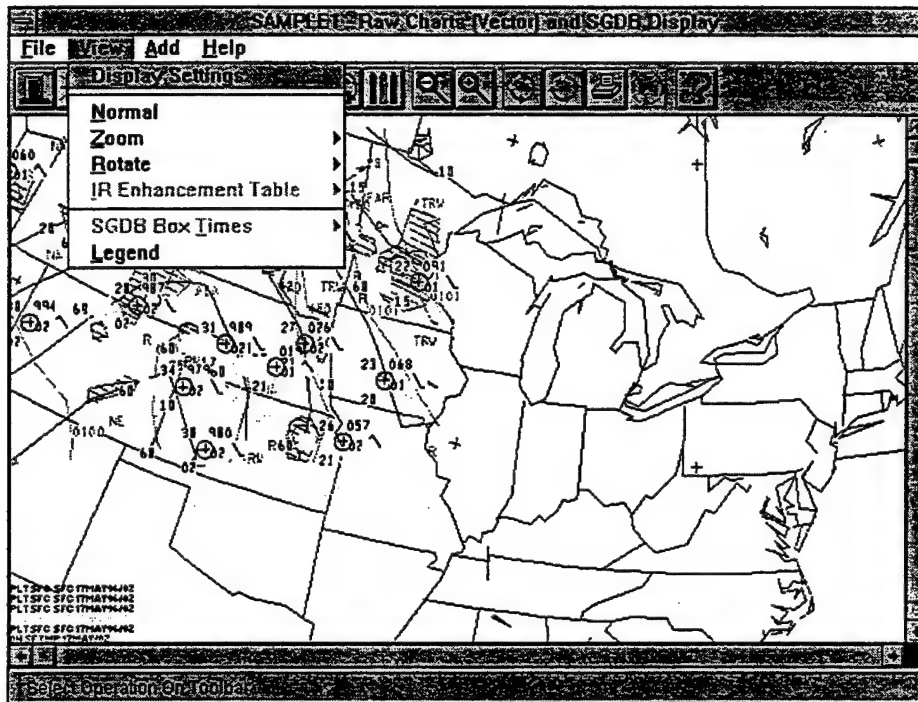


FIGURE 71. Raw Charts and SGDB Display View Menu

3.2.13.1.3.1 View Display Settings Charts menu. The View Display Settings menu displays the Display Charts Setting window. Refer to 3.2.13 for further information.

3.2.13.1.3.2 View Normal Charts menu. The View Normal menu option returns a zoomed image back to the 'x1' display size with 0° (normal) rotation.

3.2.13.1.3.3 View Zoom Charts menu. The View Zoom menu item allows the user to magnify (zoom in) and reduce (zoom out) the display. After selecting the menu option a submenu (side window) will appear listing the allowable zoom factors. The zoom factors relate to the size of the original (normal) display of the Overlay Set. A 'x1' zoom displays the Overlay Set in the original size. A 'x2' zoom means the image is doubled in both the horizontal and vertical directions producing a display four times as large as the original 'x1' image. The zoomed options are: x1, x2, x4, x8, x16, and x32. SGDB background imagery is originally displayed in its inherent image resolution.

A '1:1' decimated image will be automatically displayed with a 'x8' zoom factor. A '2:1' decimated image will be automatically displayed with a 'x4' zoom factor, etc. Zooming an SGDB background image pixel replicates the display. Pixel replication zooming is allowed up to three times from its original resolution. See figure 72.

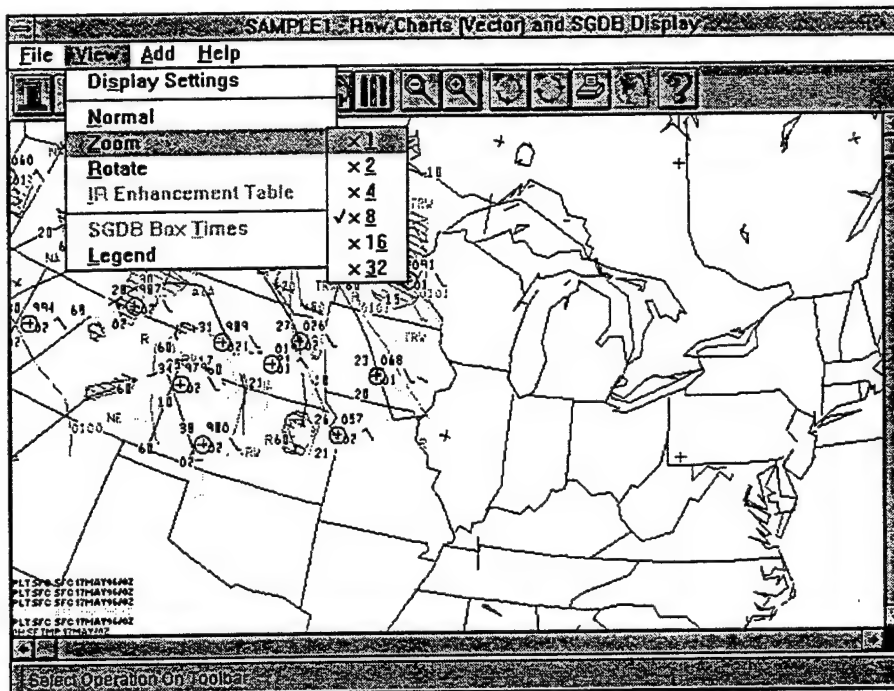


FIGURE 72. Raw Charts and SGDB Display View Zoom Menu

3.2.13.1.3.4 View Rotate Charts menu. The View Rotate option rotates the display clockwise. Rotation amount is referenced to the normal position, not the current position. To change the amount of rotation, select the Rotate submenu. The current rotation value will be indicated with a check mark. The available rotate selections are:

- a. Normal - Displays the Overlay Set without rotation.
- b. 90 - Rotate 90° clockwise from normal.
- c. 180 - Rotate 180° clockwise from normal.
- d. 270 - Rotate 270° clockwise from normal.

3.2.13.1.3.5 View IR Enhancement Table Charts menu. The View IR Enhancement Table menu option allows one of three IR Enhancement Tables to be applied to SGDB IR images. Available options are the ZA, MB, and BD Enhancement Tables; the default is ZA. Note: If no IR image is currently displayed, the menu item will not be available.

3.2.13.1.3.6 View SGDB Box Time Charts menu. The View SGDB Box Time contains the following options: Status Bar and Image. Selecting the Status Bar option displays the SGDB box time and location on the Status Bar. Box time and location values are updated as the cursor is moved over the SGDB image. Selecting the Status Bar option again turns the box time off. Selecting the Image option displays the box times within the SGDB image. To use this submenu item an SGDB image must be currently displayed otherwise the menu item will not be available.

3.2.13.1.3.7 View Legends Charts menu. Selecting the View Legends Charts option turns the product legend on or off within the display. The Legends are drawn in the lower left corner of the display. The Legend display is on by default. The Legend contains the Chart vector forecast period, creation date, data date, and data mnemonic. Reference appendix F for a list of the SDHS data item mnemonics. Only currently displayed Overlay Set components will be displayed. See figure 73.

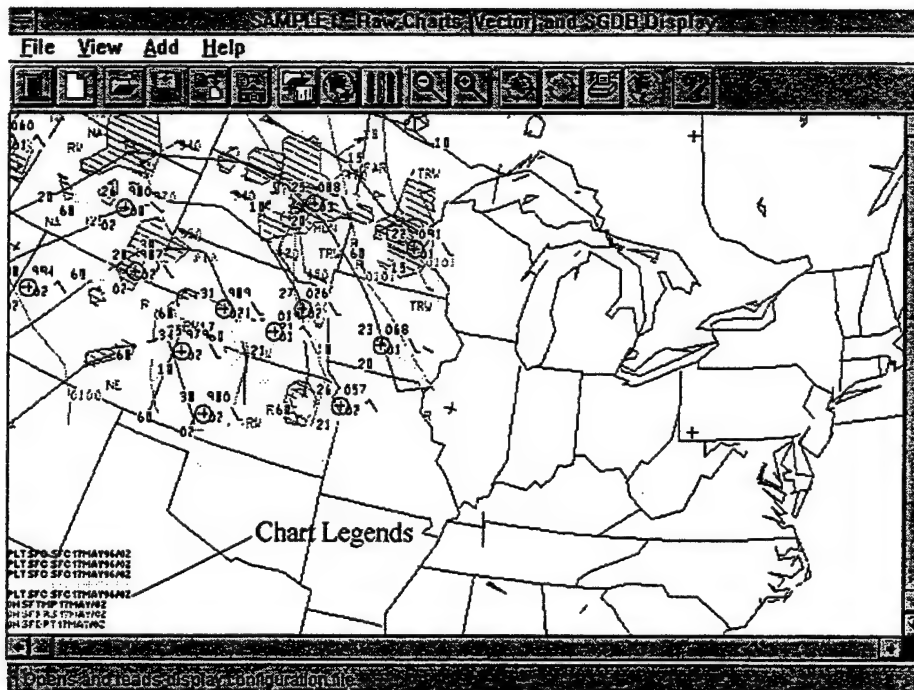


FIGURE 73. Raw Charts and SGDB Legend Display

3.2.13.1.4 Raw Charts and SGDB Display Add menu. The Raw Charts and SGDB Display Add menu contains the Charts and SGDB options.

3.2.13.1.4.1 Add Charts menu. The Add Charts option displays the Add Product Selection dialog. The Add Product Selection dialog contains an Area of Coverage and available chart list. The display projection of the Chart Products is determined by the Area of Coverage selected. Chart Products are listed and they correspond to the selected Area of Coverage. Changing the Area of Coverage will list the available products for the currently selected area. See figure 74.

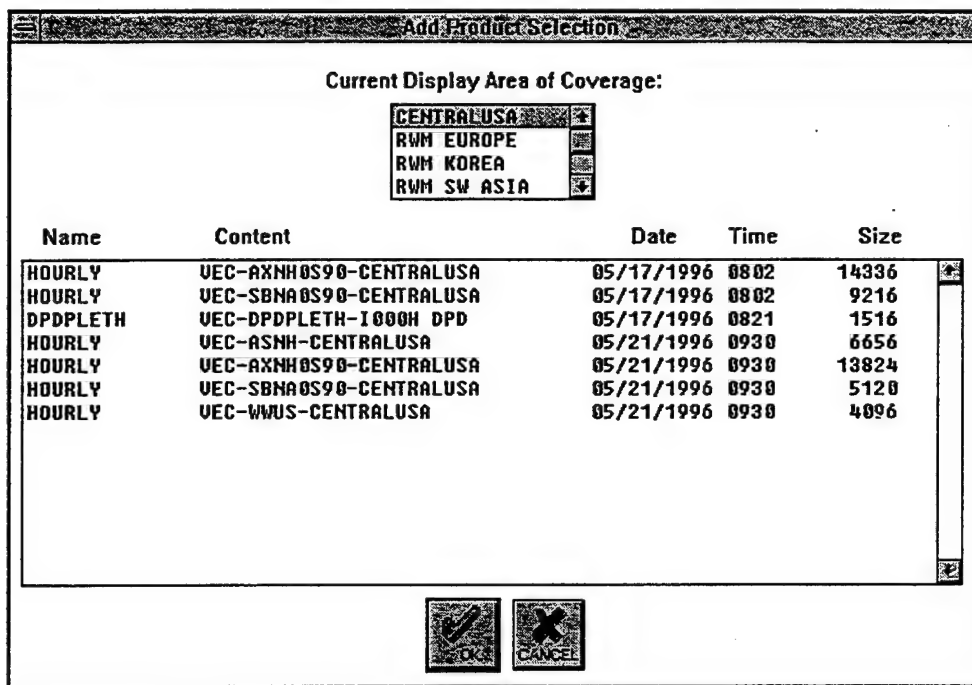


FIGURE 74. Add Product Selection Dialog

Multiple Chart Products may be selected by pressing the "Alt" or "Shift" key and dragging the mouse over the desired Chart overlays. The "OK" button adds the selected vector products to the Overlay Set. The "Cancel" button closes the dialog without adding any items to the Overlay Set.

3.2.13.1.4.2 Add SGDB menu. The Add SGDB option displays the Add Product Selection dialog. The Add Product Selection dialog contains an Area of Coverage and available SGDB list. The display projection of the Chart Products is determined by the Area of Coverage selected. See figure 74.

3.2.13.1.5 Raw Charts and SGDB Help menu. The Help menu option displays relevant Help information or the AFDIS About Box.

3.2.13.2 Raw Charts and SGDB Display toolbar. The Raw Charts and SGDB Display toolbar options include: Exit, New, Open, Save, SaveAs, SaveAs BMP, Add Chart, Add SGDB, Settings, Zoom Out, Zoom In, Rotate Counterclockwise, Rotate Clockwise, Print, SGDB Box Times, and Help buttons. Refer to figure 75.



FIGURE 75. Raw Charts and SGDB Display Toolbar

3.2.13.3 Raw Charts and SGDB Display error messages. Following is a listing of the Raw Charts and SGDB Display error messages:

Memory Allocation Failure. Will try next lowest Zoom Factor. If not successful shut down other Applications, Restart MS Windows, or use a small Areas of Coverage.

3.2.14 Display Charts Settings window. The Display Charts Settings window contains File, Add, Set, and Help options. See figure 76.

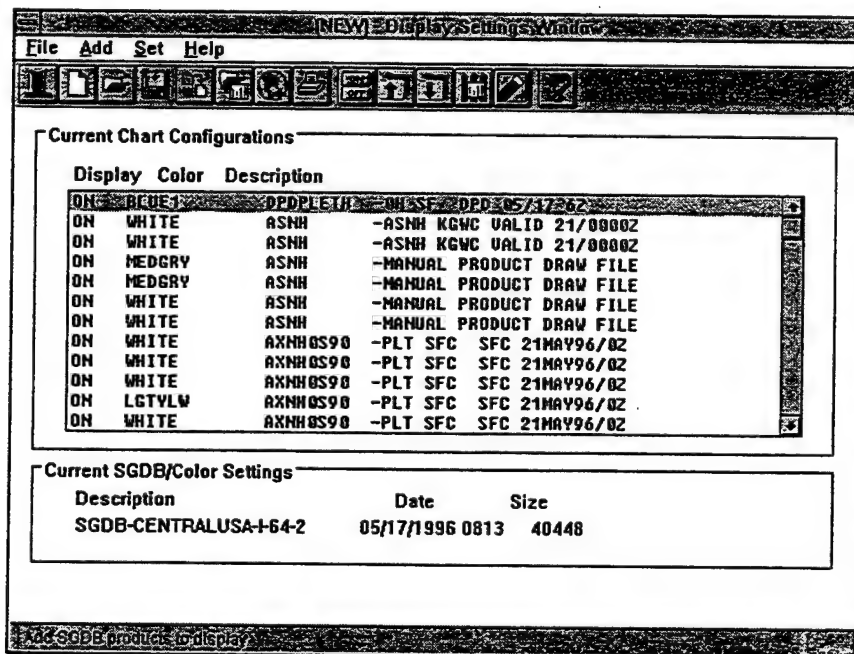


FIGURE 76. Display Charts Settings Window

3.2.14.1 Display Chart Settings File menu. The File menu contains the New, Open, Save, SaveAs, Print, and Exit options.

3.2.14.1.1 File New Settings menu. Selecting the File New option creates a new, empty Overlay Set. Chart Products may be added and backgrounds changed using menu options and the results may be saved as an Overlay Set.

3.2.14.1.2 File Open Settings menu. The File Open menu option opens previously saved Overlay Set files. Upon selection, the File Open dialog will be displayed containing a list of available Overlay Sets. Highlight the set to be opened, then press the "OK" button or double click on the selected item. Selecting the "Cancel" button returns the user to the Display Charts Setting window.

3.2.14.1.3 File Save Settings menu. The File Save menu option saves the currently open Overlay Set.

3.2.14.1.4 File SaveAs Settings menu. The File SaveAs menu option saves the Overlay Set with a new filename. Selecting this option displays the File SaveAs dialog. Enter a filename which contains up to 12 printable, ASCII characters. Selecting the "OK" button saves the selected file with the new filename. Selecting the "cancel" button returns the user to the Display Charts Setting window.

3.2.14.1.5 File Print Settings menu. The File Print option prints a summary of the Display Charts Setting window components (e.g., filename, projection, rotation factor). Chart products include: list, number of items, On/Off display status, item name, and date/time. Background information includes: image name or color, and date/time.

3.2.14.1.6 File Exit Settings menu. Selecting the File Exit submenu exits the Display Charts Settings window and returns the user to the Raw Charts and SGDB Display window.

3.2.14.2 Display Settings Add menu. The Display Settings Add menu contains the Charts and SGDB options.

3.2.14.2.1 Add Charts Settings menu. The Add Charts option displays the Add Product Selection dialog. The Add Product Selection dialog contains an Area of Coverage and available chart list. The display projection of the Chart Products is determined by the Area of Coverage selected. Chart Products are listed and they correspond to the selected Area of Coverage. Changing the Area of Coverage will list the available products for the currently selected area. See figure 74.

3.2.14.2.2 Add SGDB Settings menu. The Add SGDB option displays the Add Product Selection dialog. The Add Product Selection dialog contains an Area of Coverage and available SGDB list. The display projection of the Chart Products is determined by the Area of Coverage selected. See figure 74.

3.2.14.3 Display Charts Settings Set menu. The Display Charts Settings Set menu contains the On/Off, Up, Down, and Color options.

3.2.14.3.1 Set On/Off menu. Select the On/Off menu option to toggle the display of an overlay on or off. The current on/off state of an overlay plane is shown in the Overlay Information box.

3.2.14.3.2 Set Up menu. The Set Up menu option allows the selected overlays to be moved up one level in the stack. Multiple overlays in the list can be selected by using the mouse or keyboard action.

3.2.14.3.3 Set Down menu. The Set Down menu option allows the selected item(s) to be moved down one level in the overlay stack. To select an item click on it. Selection is confirmed by the item becoming highlighted. Multiple items in the list can be selected by using the mouse button or keyboard action.

3.2.14.3.4 Set Color menu. The Set Color menu option contains the Charts and Background options.

3.2.14.3.4.1 Set Color Charts menu. The Set Color Charts menu option displays the Available Colors for Selection dialog. Sixty-four colors are available for selection. The selected color is displayed on the left side of the dialog. Colors can be selected with the mouse. Pressing the "OK" button changes the selected Chart Products color column in the Current Chart Configurations list box to the desired color. A color selection can be applied to multiple Chart Products. See figure 77.

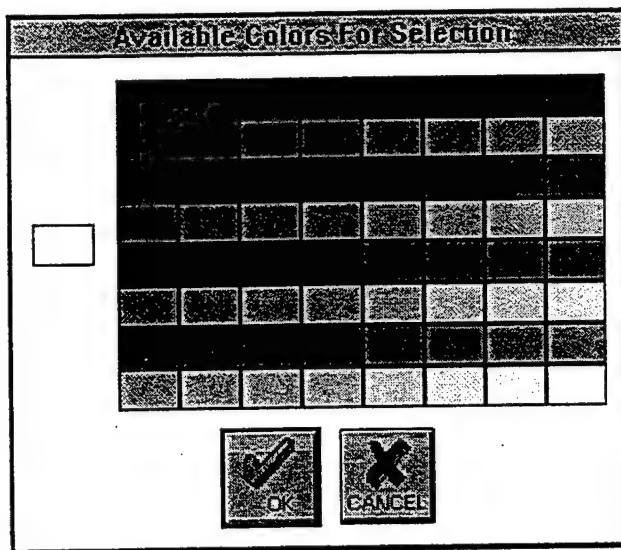


FIGURE 77. Available Colors for Selection Dialog

3.2.14.3.4.2 Set Color Background menu. The Set Color Background menu option displays the Available Colors for Selection dialog. Selecting a color, then pressing the "OK" button changes the background item. SGDB backgrounds are replaced with the desired color.

3.2.14.4 Display Settings window Help menu. The Help menu option displays relevant Help information or the AFDIS About Box.

3.2.14.5 Current Chart Configurations list box. The list box within the Display Settings window displays information about the components which comprise an Overlay Set. The overlay list order indicates the stacking order with the top overlay at the top of the list and the bottom overlay at the bottom of the list. The order can be modified by using the toolbar or menu options. Column entries within the Current Chart Configurations list box are described below.

- a. Display - This column determines if the overlay is to be displayed or not. If the word "On" is in the column, the overlay will be displayed. If the word "Off" is in the column, that overlay will not be displayed.

- b. Color - This column contains the color associated with the overlay. Entries in this field can be changed by using the Item Color button (i.e., click on the down arrow and the color selections will appear). Note: If the same color is selected to display an overlay plane as the background color, the overlay will not be visible, e.g., white vectors on a white background look like a blank screen.
- c. Description - This column contains the chart product filename containing the item and other information, e.g, creation time, creation date.

3.2.14.6 Current SGDB/Color Settings information box. This information box displays the currently selected background color or SGDB image background. See figure 78.

Current SGDB/Color Settings		
Description	Date	Size
SGDB-CENTRALUSA-I-64-2	05/17/1996 0813	40448

FIGURE 78. Current SGDB/Color Settings List Box

3.2.14.7 Display Charts Settings window toolbar. The Display Charts Settings window toolbar options include: Exit, New, Open, Save, SaveAs, Add Charts, Add SGDB, Print, On/Off, Up, Down, Color Chart, Color Background, and Help buttons. Refer to figure 79.



FIGURE 79. Display Charts Settings Window Toolbar

3.2.14.8 Display Charts Settings window error messages.
Following is the Display Charts Settings window error message:

File Name already exists, Please select another name.

3.2.15 Text Product Selection window. The Text Product Selection window sorts and displays an available text product list by product category. The categories of text products are Weather Bulletins, Observations (OBs), or Terminal Airdrome Forecasts (TAFs). When a category is selected, the available product list is updated for selection. Highlighting a product from the list, then selecting the open menu or toolbar option displays the appropriate text display window with the selected file as illustrated in figure 80.

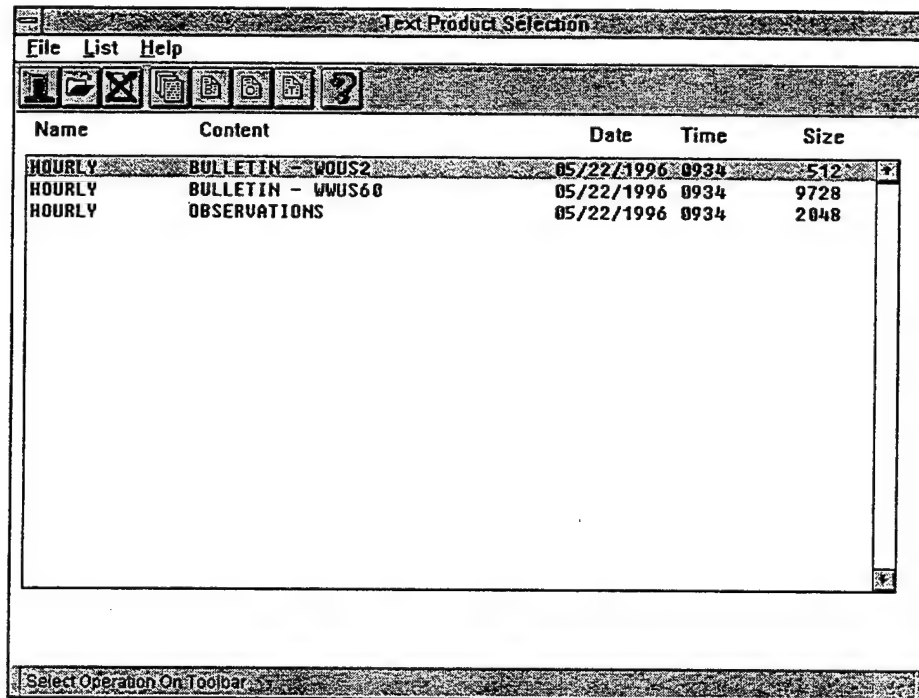


FIGURE 80. Text Product Selection Window

3.2.15.1 Text Product Selection File menu. The Text Product Selection File menu contains the following options: Open, Delete, and Exit.

3.2.15.1.1 File Open Text Product menu. This option displays the appropriate text display window with the currently highlighted item in the view box.

3.2.15.1.2 File Delete Text Product menu. This option deletes the item currently highlighted in the view box.

3.2.15.1.3 File Exit Text Product menu. This option exits the Text Product Selection window and returns control to the Product Display Selection window.

3.2.15.2 Text Product Selection List menu. The List menu contains the All, Bulletins, OBS, and TAFs menu options.

3.2.15.2.1 List All Text Product menu. The List All menu option lists every available file.

3.2.15.2.2 List Bulletins Text Product menu. The List Bulletins menu option lists only the available bulletin files.

3.2.15.2.3 List OBS Text Product menu. The List OBS menu option lists only the available OBS files.

3.2.15.2.4 List TAFS Text Product menu. The List TAFS menu option lists only the available TAF files.

3.2.15.2.5 Text Product Selection Help menu. The Text Product Selection Help menu is used to display help text.

3.2.15.3 Text Product Selection window toolbar. The Text Product Selection window toolbar options include: Exit, Open, Delete, List All, List Bulletins, List OBS, List TAFS, and Help buttons. Refer to figure 81.

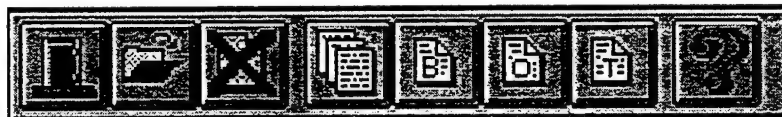


FIGURE 81. Text Product Selection Window Toolbar

3.2.16 Text Display window. The Text Display window displays bulletins, OBS, and TAFs. The title reflects the category of the displayed text product. See figure 82.

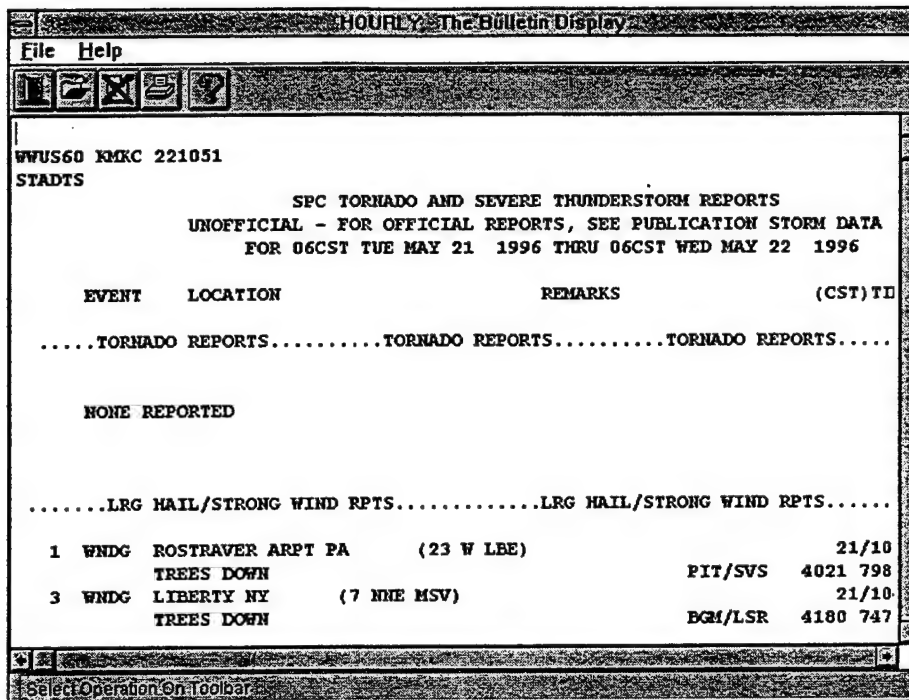


FIGURE 82. Text Display Window

3.2.16.1 Text Display File menu. The Text Display File menu contains the following options: Open, Print, Delete, Export and Exit.

3.2.16.1.1 File Open Text Display menu. To open a text file, select the File Open menu option. The File Open Selection dialog will list available filenames.

3.2.16.1.2 File Print Text Display menu. The File Print option allows the user to print the content of the currently opened file. The file can be either a Weather Bulletin, Observation, or TAF.

3.2.16.1.3 File Delete Display menu. The File Delete option allows deletion of the currently open text file. The Delete dialog will appear and request deletion confirmation. To delete multiple text files, use the File Manager window.

3.2.16.1.4 File Export Display menu. The File Export option exports or stores text files (e.g., Weather Bulletins, Observations, TAFs) in American Standard for Coded Information Interchange (ASCII) text format which is compatible with other software applications as illustrated in figure 83. The Export File dialog uses a standard GUI export dialog. The drive, directory, file and file type can be selected from the list boxes. Refer to the Microsoft Windows User Manual for more information.

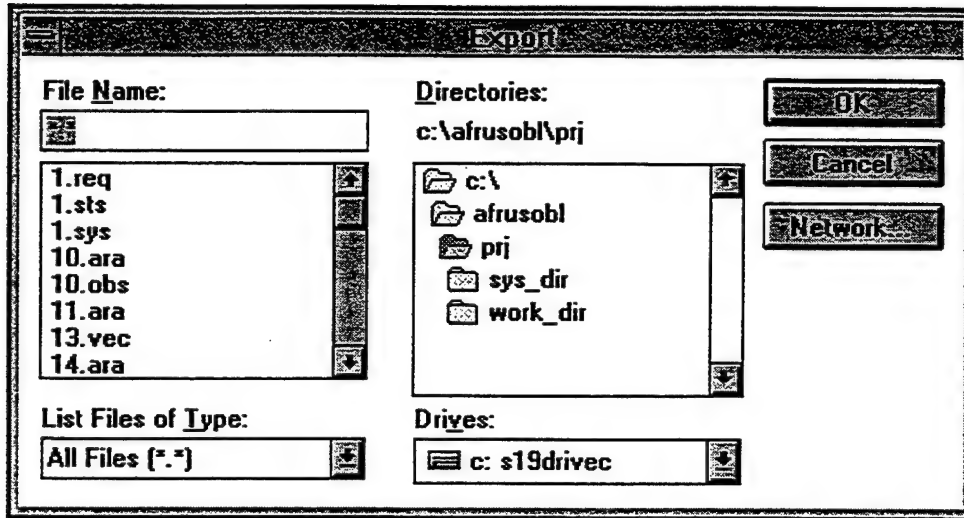


FIGURE 83. Export Dialog

3.2.16.1.5 File Exit Text Display menu. Use the File Exit option to exit the Text Display window and return to the Text Product Selection window.

3.2.16.2 Text Display Help menu. The Text Display Help menu is used to display help text.

3.2.16.3 Text Display window toolbar. The Text Display window toolbar options include: Exit, Open, Delete, Print, and Help buttons. Refer to figure 84.



FIGURE 84. Text Display Window Toolbar

3.2.16.4 Text Display error messages. Following is a list of the Text Display error messages:

"File open error. Exit and restart AFDIS. If error occurs, call for assistance."

"Cannot replace a write protected file - file not saved".

3.2.17 Grid Conversion window. The Grid Conversion window converts the retrieved raw SDHS grids into displayable vector plot and isopleth files. Several vector files can be assembled and displayed with the Raw Charts and SGDB Display window. See figure 85.

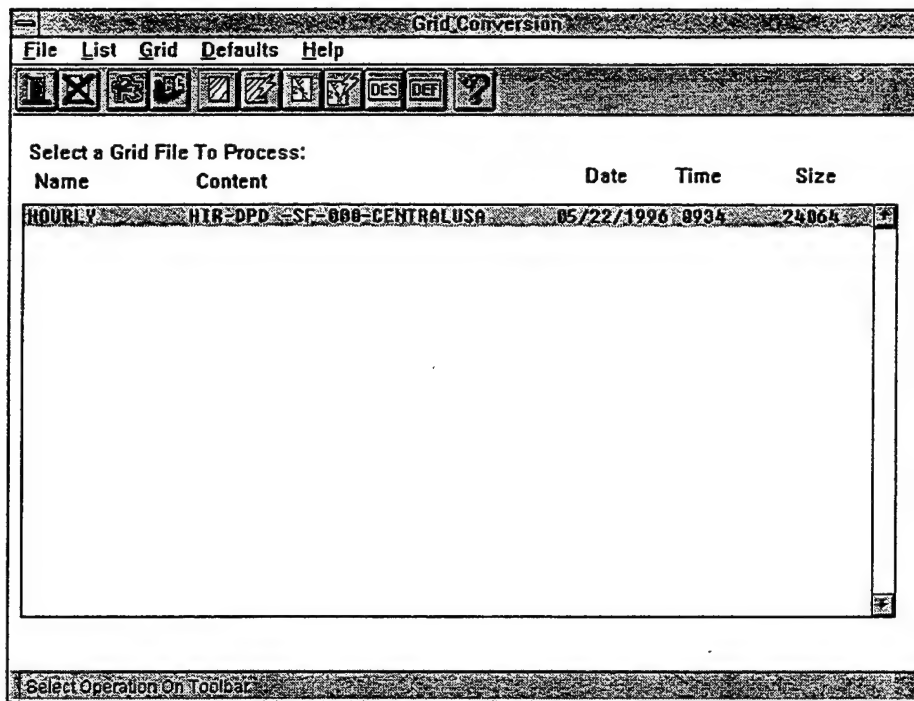


FIGURE 85. Grid Conversion Window

3.2.17.1 Grid Conversion Terms and Concepts. To properly use the grid conversion options, the user must understand certain terms and concepts pertaining to vector generation.

3.2.17.1.1 Grid to Vector Conversion. There are two types of grid vectoring methods: isoplething and plotting. See figure 86. Isoplething creates contour lines by joining data points with equal values. Plotting displays the data value with a numeric value. Isopleths and plots have common attributes of color, label/plot characteristics, and units of measure. Isopleths have line style, start, stop, and interval value attributes. Plots have decimation/declutter and position attributes.

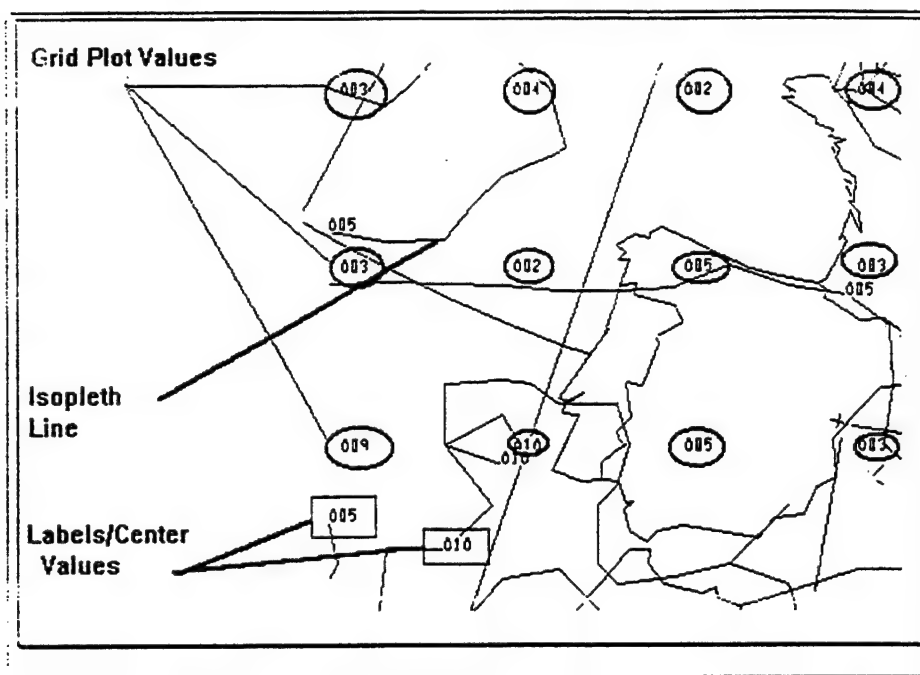


FIGURE 86. General Vector Types

3.2.17.1.1.1 Vector color. Sixty-four predefined colors are available for vectors. Standard atmospheric data items have assigned colors. Care must be exercised in selecting colors. For example, the default display background color is black. Black vectors on a black background will not be visible.

3.2.17.1.1.2 Label/Plot characteristics. Label/plot characteristics determine the length of the label/plot and the significance of the left most digit. Maximum label/plot length is eight digits. The significant digit position has a range from -10 to +10. Digit length is important during the display of data due to the amount of room a label or plot may require. Data may be overwritten if the plot file becomes too cluttered.

3.2.17.1.1.3 Units of measure. Grid files have default units of measure. For example, temperature grids are produced in kelvin. Applied units of measure are selected by using the Grid Default Dialog. The user must ensure the appropriate unit of measure is selected for the grid file. Unexpected results can result by specifying the wrong conversion factors.

3.2.17.1.1.4 Line styles. There are four line styles available: thin, wide, dashed, and solid. Selecting different line styles can assist the user in more easily distinguishing between multiple grid items or forecast periods.

3.2.17.1.1.5 Isopleth start, stop, and interval values. When isoplething a grid file, the start, stop, and interval values must be specified. For example, consider a standard surface temperature grid (in Fahrenheit). Data values may range from -80° to + 120°. Data minimum and maximum values can be viewed by using the Grid Conversion Grid Describe menu option. For contour output, generate an isopleth for every five degrees of temperature. The isopleth value for start would be -80 (always use the minimum), stop is +120, and 5 for interval. Start and stop values can be 10 numeric digits with a decimal point and positive or negative signs. Interval values are always positive.

Start, stop, and interval values are important because AFDIS will always attempt to produce a vector file. Erroneous values may produce blank vector files. Very small interval values can cause the maximum vector record file limit to be exceeded. If the isopleth generation is so dense that 99999 vector records are produced, no further records are generated, the file is closed, and a message is displayed, warning that not all grid data were processed. If the file limit is exceeded, select a larger interval value and reprocess the grid file.

3.2.17.1.1.6 Plot decimation/declutter. The finer resolution grid mesh will require specification of a decimation/declutter value. Plotting and displaying the finer resolution grid meshes even at the highest zoom factors can result in data so cluttered to be unreadable. Decimation limits the data used by discarding or skipping data points. Selecting "1 Grid Plot For Every 9" option generates a plot record for every tenth data point. The maximum vector file record limit of 99999 can easily be exceeded if no decimation values are specified. If the maximum record limit is exceeded, no further records are generated, the file is closed, and a message is displayed warning that not all grid data were processed. If the file limit is exceeded, select a greater decimation value and reprocess the grid file.

3.2.17.1.1.7 Plot position. The plot position specifies where the vector digits will be placed with respect to the actual plot position. The specific position is dependent on the grid data type. Wind (u-, v-component) grids produce wind barb plots which are always associated with the plot center. Any non-wind data item can have a position surrounding (except the top/bottom) the grid point. By varying the plot position, six different grids and one wind grid file can be presented in a grid station plot. See figure 87.

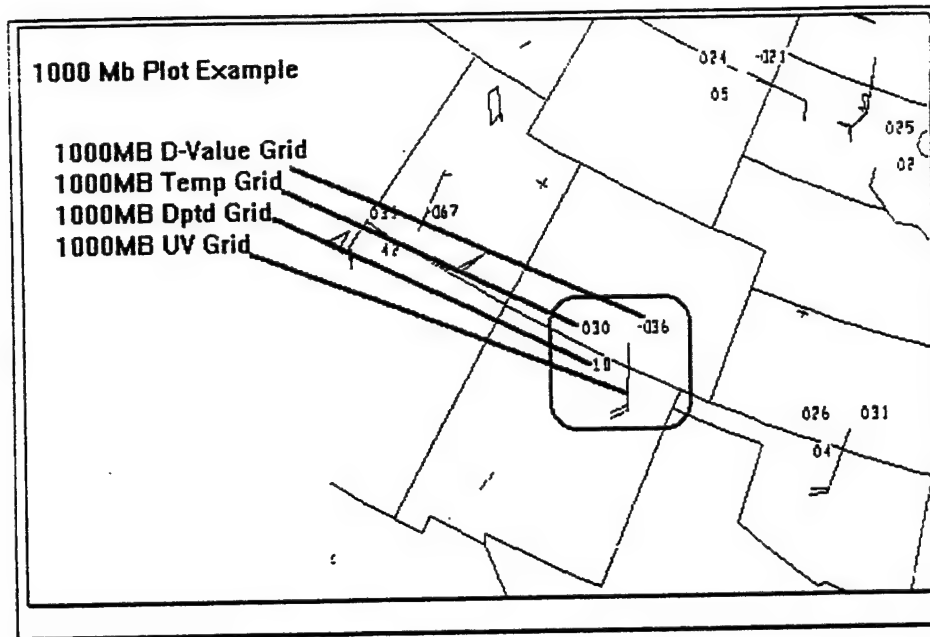


FIGURE 87. Grid Plot Creation Example

3.2.17.1.2 Available grid data. Tables II and III contain examples of mesh types and mnemonics available from AFGWC grid data/models. The tables were generated based on data availability during September 1994.

TABLE II. Available Model Meshes

GENERATING MODEL	MESHES AVAILABLE
GSM	Whole, Half, HIRAS, Tropical
RWM	Normally Half or Eighth
RTNEPH Cloud System	Eighth
SSM/I	Eighth

TABLE III. Available Mesh Data Items

MESH	DATA ITEM MNEMONICS AVAILABLE (See Appendix F)				
Whole	CDB1 OMG	CDB2 PPW	CDT1	CDT2	MDVL
Half	BDPD ICE QPF3	CAMT PPTN SWT	CTP PRS TMP	DPD QPF1 UWC	DVL QPF2 VWC
Eighth	AGE CLA PPTN	CDB CLT SNO	CDT CMA	CHA CMT	CHT CTA
HIRAS	DPD PRS TMPA	DVL RH UWC	HGT SH VRT	OMG STF VRTA	PPW TMP VWC
RWM	DPT PRS TMP	DVL RH UWC	INTH RRA VRT	INTT SH VWC	PPP SWT
RTNEPH	BGF EBT1 GDP ISP L1P L1V L2P L2V L3P L3V L4P L4V SDU VDP	BRF EBT2 IDN L1A L1R L2A L2R L3A L3R L4A L4R PDU TMF VDU	CCP EBT3 IDP L1B L1S L2B L2S L3B L3S L4B L4S RDU TMOD VIS	CLP EBT4 IDU L1I L1T L2I L2T L3I L3T L4I L4T SDF TRP VSP	CTA FHS IODE L1LP L1TP L2LP L2TP L3LP L3TP L4LP L4TP SDP VDN WW1
SSM/I	ICA IH3 IID IST IV3	ICW IH8 IRA ISW IV8	IDD IHV ISC ITT IVV	IEF IIA ISM IV1 IWV	IH1 IIC ISN IV2

3.2.17.1.3 General grid to vector rules. The following recommendations apply to grid vectoring:

- a. Displaying vectors with SGDB imagery differs from displaying with a colored background. SGDB imagery displays with the retrieved resolution and zoom capabilities are not available. When retrieving SGDB and finer resolution grid meshes, use small areas of coverage. As an example, for a four corner region select SGDB image resolution of 1:1. This selection will retrieve an image with a 4096 x 4096 resolution and a 4X zoom factor. During plot generation use a "1 Grid Plot For Every 9" decimation. During isoplething use a large interval value. These selections should produce a readable display. Vector displays without imagery background permit up to a 32X zoom factor. This zoom factor can generate a readable display regardless of data clutter.
- b. Vary the line style and color to generate overlay displays more discernable to the viewer. Up to 12 shades of colors are easily detectable when simultaneously displayed. Using dashed lines can increase the readability of data. Note: Colors of vector files can be changed at display time, but line styles cannot.
- c. HIRAS grid meshes plotted and displayed in a polar stereographic projection will have a curved spiral boundary. This curvature is caused by the grid point conversion from lat/lon to polar stereographic projection. Data clutter will occur at the poles due to the numerous grid points in the lat/lon projection being converted to a single point (at the pole) in polar stereographic. If this is a display problem, try using only polar stereographic grid meshes for plot displays.
- d. If nothing is displayed after generation of the vector file, check the following attributes:
 - 1) Are the vector and background colors the same?
 - 2) Are the start, stop and interval values used for isoplething out of range of the data?

3.2.17.2 Grid Conversion File menu. The Grid Conversion File menu contains Delete, Export, and Exit options.

3.2.17.2.1 File Delete Grid menu. The File Delete Grid menu option deletes the currently highlighted item.

3.2.17.2.2 File Export Grid menu. The File Export Grid menu option displays the export file dialog as illustrated in figure 83. After specifying drive, directory, filename, and file types, the export dialog will disappear and the active grid file is copied to the specified file in an SDHS specific grid file format.

3.2.17.2.3 File Exit Grid menu. Selecting the File Exit menu exits the Grid Conversion window and returns the user to the Product Display Selection menu.

3.2.17.3 Grid Conversion List menu. The Grid Conversion List menu contains Sort by Item and Sort by Date options.

3.2.17.3.1 List Sort by Item menu. Selecting the List Sort by Item option lists the available grid products in alphabetical order.

3.2.17.3.2 List Sort by Date menu. Selecting the List Sort by Date option lists the available grid products in data/time order.

3.2.17.4 Grid Conversion Grid menu. The Grid Conversion Grid menu contains Isopleth, Auto Isopleth, Plot, Auto Plot, and Describe options. Menu items are dithered and inaccessible if no grid products are available. See figure 88.

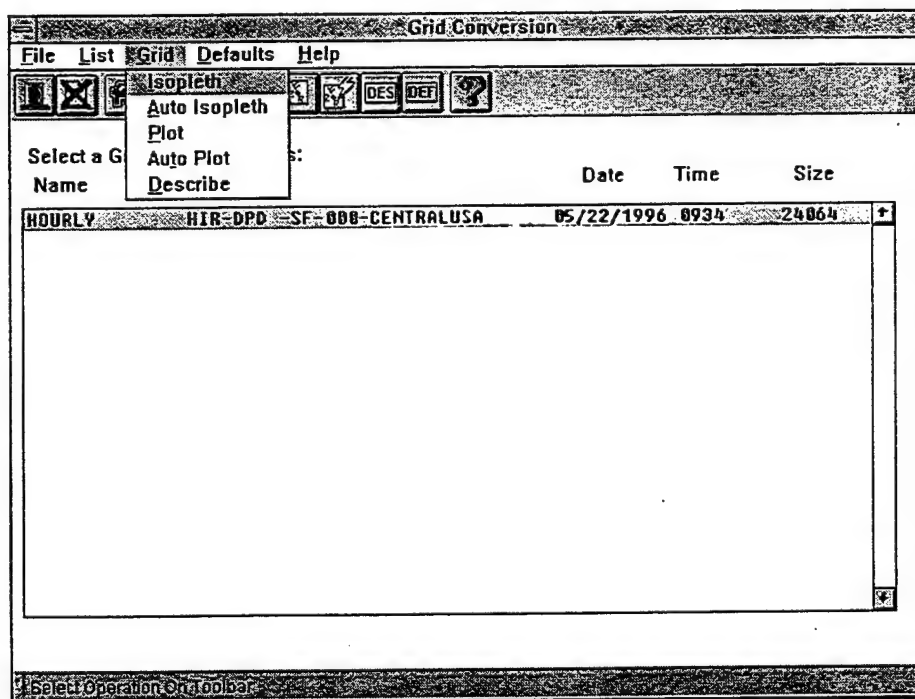


FIGURE 88. Grid Conversion Grid Menu Items

3.2.17.4.1 Grid Isopleth menu. The Grid Isopleth option displays the Plot Grids as Isopleths dialog. The Plot Grids As Isopleths dialog allows the user to specify the isopleth attributes to be used during vector generation. The specified attributes will be used to generate vectors for the selected grid item when the "OK" button is selected. See figure 89.

Plot Grids as Isopleths

Line Style: [Solid Line Icon] [Dashed Line Icon]

Line Width: [Thin Line Icon] [Wide Line Icon]

Line Color: BLUE1 [Color Selection Icon]

Units of Measure: Celsius

Isopleth Start Value: 0.000000

Isopleth Stop Value: 6.000000

Isopleth Interval: 2.000000

Label Length: 6 Digits [Spin Button]

Label's Significant Digits: #####000.000#####

[Left Arrow] [Right Arrow]

☒ Turn On Max/Min Center Labels

Output File Name: DPDPLETH

[OK] [Cancel]

FIGURE 89. Plot Grids As Isopleths Dialog

3.2.17.4.1.1 Line style/line width. Select solid or dashed line type and thin or wide line width to specify the line attributes.

3.2.17.4.1.2 Line color. Select a color from the line color list to specify the color attributes.

3.2.17.4.1.3 Units of measure. The units of measure selection is available from the User Defined Gridding Attributes dialog and displays the current setting for conversion. Refer to 3.2.17.4.6.1.2 for more information.

3.2.17.4.1.4 Start, stop, interval values. Enter values for isopleth start, stop, and interval attributes. Displayed start, stop, and interval values are system or user specified defaults. User defined default values can be set by using the User Defined Gridding Attributes dialog. Refer to 3.2.17.4.6.1.5 for more information.

3.2.17.4.1.5 Label length and significant digit values.

Specifying the label length will update the significant digit position display. Use the right (>) or left (<) buttons to move the significant digit position unit. See figure 90.

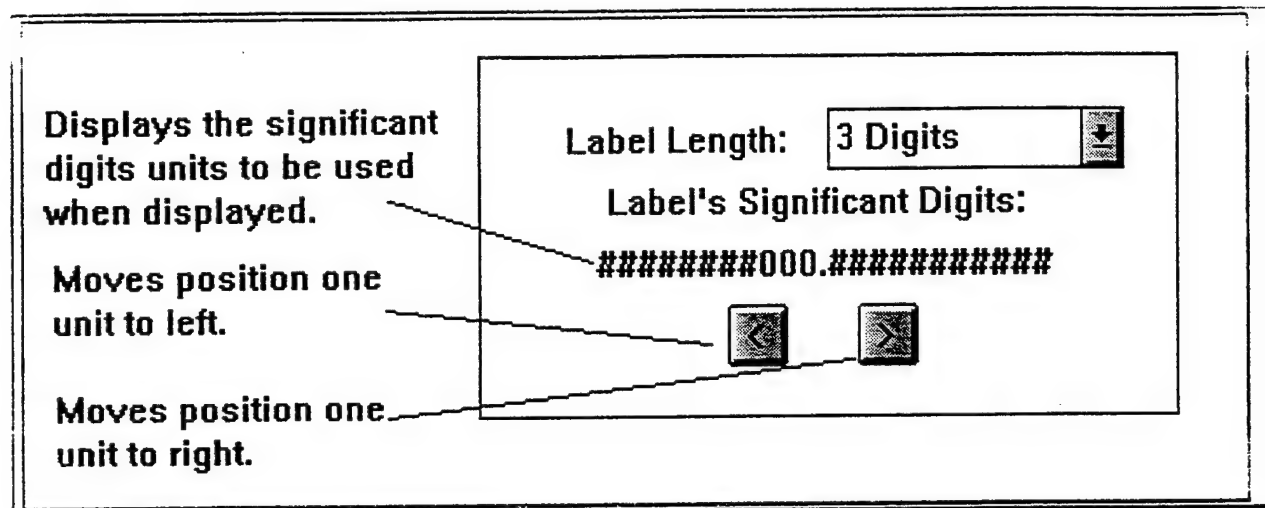


FIGURE 90. Label/Plot Digit Attributes

3.2.17.4.1.6 Max/Min center labels. Selecting the max/min center labels places a "+" or "-" sign in closed isopleth centers at the max/min data point. A label with the center's data value will be generated below the max/min point. The center label's digit length and significant digit are defined by the label length and significant digit values.

3.2.17.4.1.7 Output filename. Enter a descriptive filename of up to twelve alphabetical characters to be associated with the generated vector file. The vector filename will be entered in the AFDIS vector data base and will be used in the file description displayed by the Raw Charts and SGDB Display window.

3.2.17.4.2 Grid Auto Isopleth menu. The Grid Auto Isopleth option uses the user-defined defaults, if available, or the system-defined defaults to automatically generate the vector file. Default values, either user or system defined, can be viewed using the User Defined Gridding Attributes dialog. Once isoplething has been accomplished, the selected item is no longer highlighted. Multiple files can be selected for auto isoplething. U-, v-wind components grid files cannot be auto isoplethed and will remain highlighted.

3.2.17.4.3 Grid Plot menu. The Grid Plot option displays the Plot Grids as Plot Vectors dialog which allows the user to specify the plot attributes to be used during vector generation. The specified attributes are used to generate vectors for selected grid items when the "OK" button is chosen. See figure 91.

Plot Grids as Plot Vectors

Representation: Numeric
Units of Measure: Celsius

Plot Color : BLUE1

Plot Decimation/Declutter:

☐ Every Grid Point
☐ 1 Grid Plot For Every 4
☒ 1 Grid Plot For Every 9

Plot Position:

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Numeric Plot Information:

Plot Label Length: 6 Digits

Plot's Significant Digits:
#####000.000#####

Output File Name: DPDPLOT

FIGURE 91. Plot Grid As Plot Vectors Dialog

3.2.17.4.3.1 Grid Plot information. When the Grid Plot As Plot Vectors dialog is displayed, information about the output vector representation and current setting for the unit of measure conversion is provided. U-, v-wind grid files will generate wind barb representations. All other non-u-, non-v-wind grids will generate numeric vector representations. The units of measure value is available from the User Defined Gridding Attributes dialog. Refer to 3.2.17.4.6.1.2 for further information.

3.2.17.4.3.2 Plot color. Select a color from the plot color list to specify the color attributes.

3.2.17.4.3.3 Plot decimation/declutter. Select a decimation/declutter attribute to be used during vector generation.

3.2.17.4.3.4 Plot position. Select an offset plot position attribute for numeric grid data to be used during vector generation. The center position is reserved for wind barb plot representation.

3.2.17.4.3.5 Plot length and significant digit values. Changing the plot length attribute will update the significant digit position display. Use the right (>) and left (<) buttons to move the significant digit position as appropriate. See figure 92.

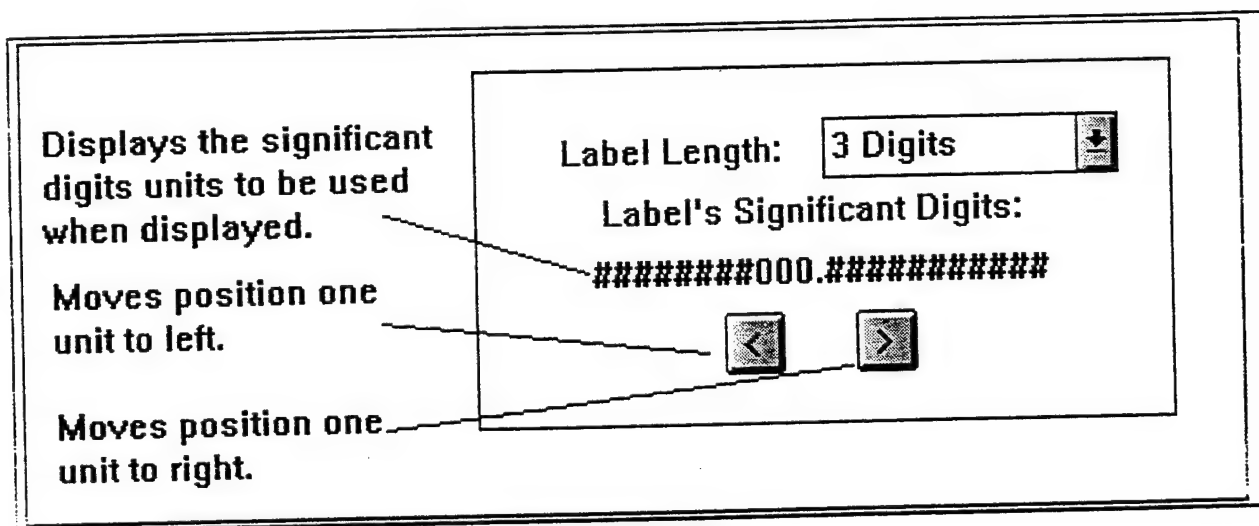


FIGURE 92. Length and Significant Digit Indicators

3.2.17.4.3.6 Output filename. Enter a descriptive filename of up to 12 alphabetical characters to be associated with the generated vector file. The vector filename will be entered in the AFDIS vector data base, and will be used in the file description displayed in the Raw Chart and SGDB Display window.

3.2.17.4.4 Auto Plot Grid menu. The Auto Plot Grid option uses the user-defined defaults, if available, or the system-defined defaults to automatically generate the vector file. Default values, either user or system defined, can be viewed using the User Defined Gridding Attributes dialog. Once plotting has been accomplished, the selected item is no longer highlighted. Multiple files can be selected for auto plotting.

3.2.17.4.5 Grid Describe menu. The Grid Describe option displays the Grid Attributes/Description dialog. The dialog displays pertinent grid file information. Selecting the "Cancel" button returns the user to the Grid Conversion window. See figure 93.

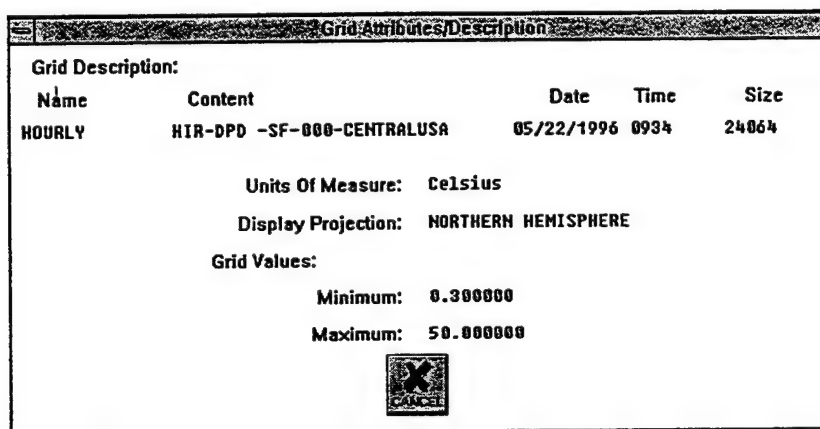


FIGURE 93. Grid Attributes/Description Dialog

3.2.17.4.6 Grid Conversion Defaults menu. The Grid Conversion Defaults option offers a Parameters submenu selection. See figure 94.

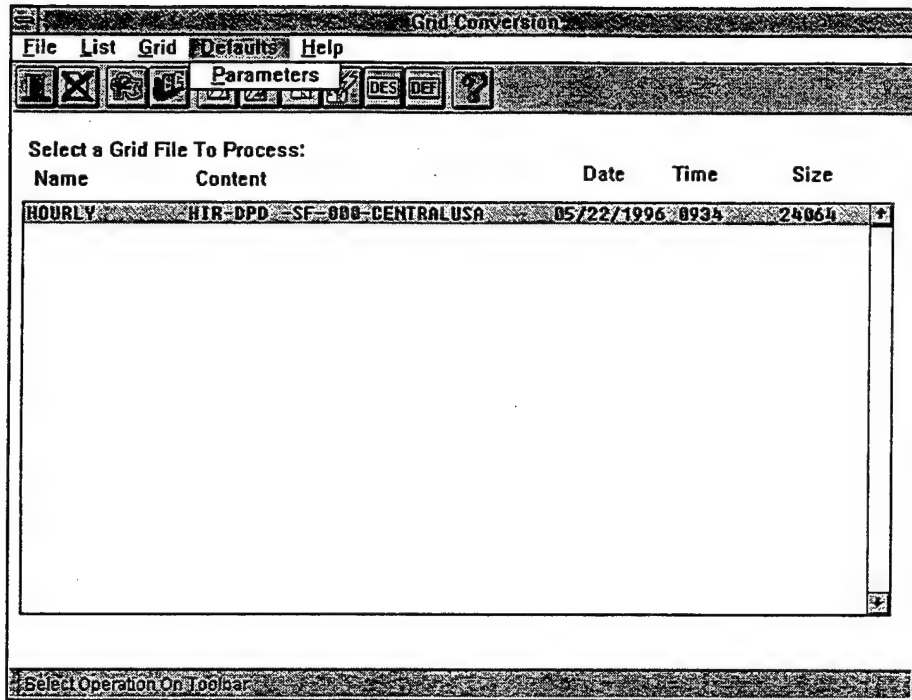


FIGURE 94. Grid Conversion Defaults

3.2.17.4.6.1 Defaults Parameter menu. The Defaults Parameter option displays the User Defined Gridding Attributes dialog. This dialog allows the user to specify the default attribute values to be used for isoplething and plotting. See figure 95.

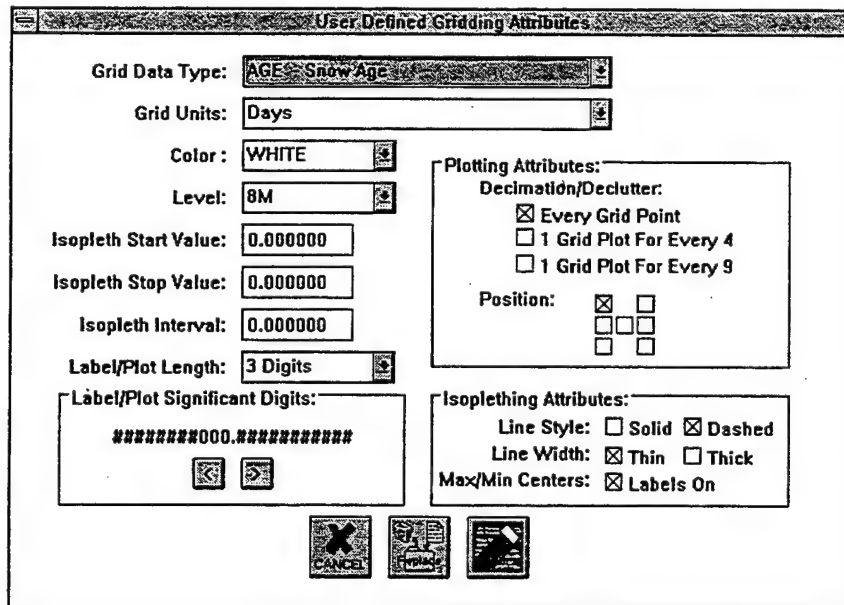


FIGURE 95. User Defined Gridding Attributes Dialog

3.2.17.4.6.1.1 Grid Data Type. To modify a Grid Data Type, select an item from the list. Both Grid Data Type and atmospheric level are required to completely specify a particular data type.

3.2.17.4.6.1.2 Grid Units. Select a unit of measure conversion factor to be used as the default during vector generation.

3.2.17.4.6.1.3 Color. Select a color from the color list to specify the default color attribute to be applied to the isopleth.

3.2.17.4.6.1.4 Level. Select an atmospheric level from the Level list. Both Data Type and atmospheric level are required to completely specify a particular data type.

3.2.17.4.6.1.5 Isopleth start, stop, interval values. Enter a value to be used for the isopleth start, stop, and interval default attribute values. Note: Start value must be smaller than the stop value. The interval value must be positive.

3.2.17.4.6.1.6 Label/Plot length and significant digit values. Changing the label length updates the significant digit position display. Use the right (>) and left (<) buttons to move the significant digit position as appropriate.

3.2.17.4.6.1.7 Plotting Attributes. The Plotting Attributes selections include Decimation/Declutter and Plot Position. Select the desired decimation value to be used during the plotting operation. Plot Position selection is available for all data items except u-, v-wind component grids. Select the desired plot position to be used during the plotting operation.

3.2.17.4.6.1.8 Isoplething Attributes. The Isoplething Attributes selections include Isoplething (line style), Line Width, and Max/Min Center labels. Select the appropriate settings to be used during the isoplething operation.

3.2.17.4.6.1.9 Replace and Clear. The "Replace" button stores the entered values into a user specified data base. This data base is used by the isoplething and plotting operations to determine default values. The "Clear" button returns the attribute values to the system defined default values. User specified data base values are not modified during the reset operation. To modify a stored user entry, select the desired attribute, make the change, then press the "Replace" button.

3.2.17.4.6.1.10 Cancel. Selecting the "Cancel" button returns the user to the Grid Conversion window. If "Cancel" is selected, no user specified values are stored to the user's data base.

3.2.17.5 Grid Conversion Help menu. The Grid Conversion Help menu is used to display help text.

3.2.17.6 Grid Conversion window toolbar. The Grid Conversion window toolbar options include: Exit, Delete, Sort by Date, Sort by Name, Isopleth, Auto Isopleth, Plot, Auto Plot, Describe, Define, and Help buttons. Refer to figure 96.

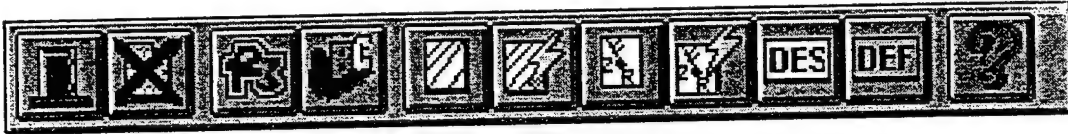


FIGURE 96. Grid Conversion Window Toolbar

3.2.17.7 Grid Conversion List Box. The list box within the Grid Conversion window displays information about available grid data. If no grid data are available, the Grid Conversion menu options are dithered and unavailable. Only the Help and Exit options are available. The first entry in the Grid List Box will default to the active grid file. The selected grid entry will be used for the Isopleth or Plot operation dialogs. Use the List menu option to sort the available grid entry list.

3.2.17.8 Grid Conversion error messages. Following is the listing of Grid Conversion error messages:

The maximum number of contour points has been exceeded.
Modify the isopleth start, stop, and/or interval to
reduce the number of isopleths.

A NEW USER DATABASE IS BEING CREATED

User file can not be opened

Interval value has too many digits

Interval value is incorrect; can not have Letters or a
negative sign

Start value has too many digits

Start value is incorrect

Stop value has too many digits

Stop value is incorrect

Start value must be less than stop value

A file name needs to be entered

U/V Wind Grids can not be Isoplethed. Use Grid Plot Dialog and build Wind Barbs.

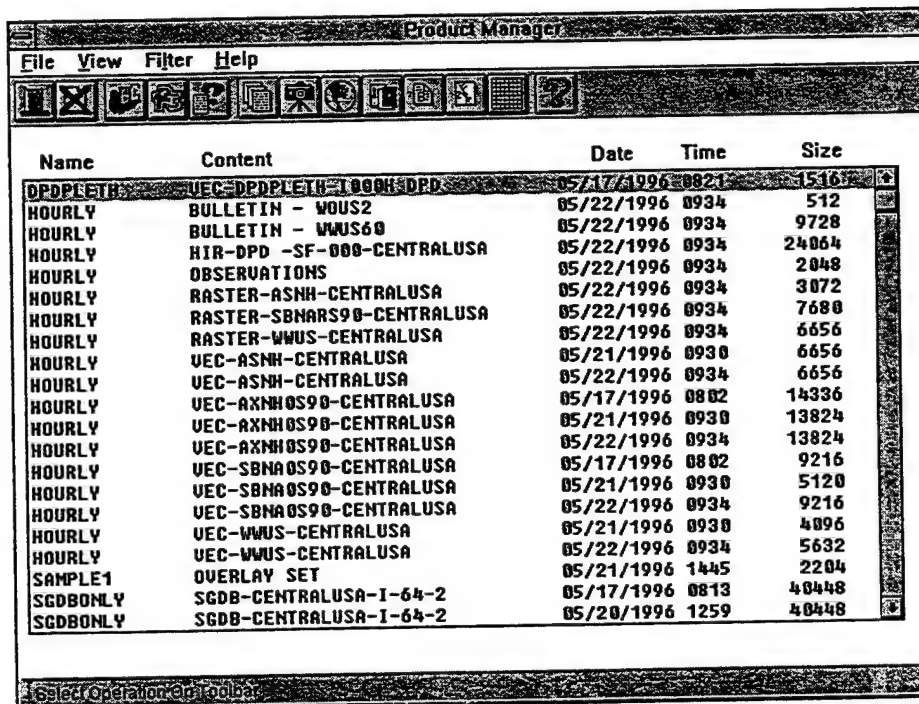
Error opening Grid File. Select and try again.

Too many entries selected, refine your request for Levels or Times

No products were selected for deletion!

Error occurred during processing. Check grid file size and delete if zero byte size. Check attributes and reprocess.

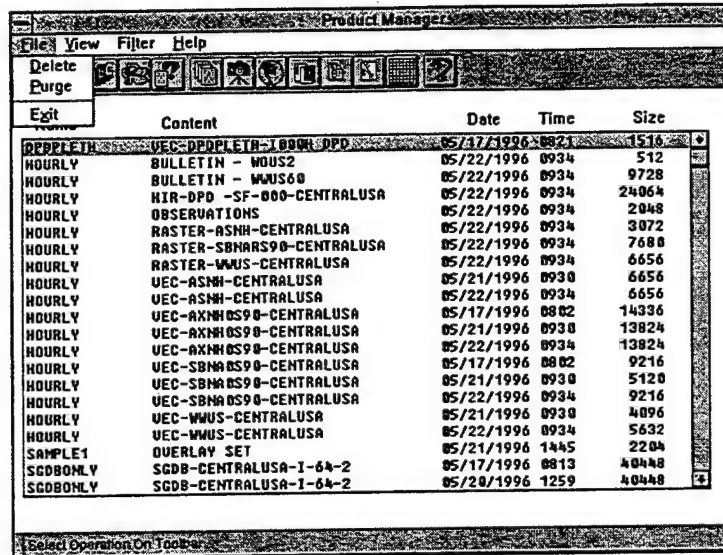
3.2.18 Product Manager window. The Product Manager window provides the capability to manage AFDIS related files as illustrated in figure 97.



Name	Content	Date	Time	Size
DPDPLETH	UEC-DPDPLETH-1000H-DPD	05/17/1996	0821	1516
HOURLY	BULLETIN - WOUS2	05/22/1996	0934	512
HOURLY	BULLETIN - WWUS60	05/22/1996	0934	9728
HOURLY	HIR-DPD -SF-000-CENTRALUSA	05/22/1996	0934	24064
HOURLY	OBSERVATIONS	05/22/1996	0934	2048
HOURLY	RASTER-ASNH-CENTRALUSA	05/22/1996	0934	3072
HOURLY	RASTER-SBNARS90-CENTRALUSA	05/22/1996	0934	7680
HOURLY	RASTER-WWUS-CENTRALUSA	05/22/1996	0934	6656
HOURLY	UEC-ASNH-CENTRALUSA	05/21/1996	0930	6656
HOURLY	UEC-ASNH-CENTRALUSA	05/22/1996	0934	6656
HOURLY	UEC-AXNH0S90-CENTRALUSA	05/17/1996	0802	14336
HOURLY	UEC-AXNH0S90-CENTRALUSA	05/21/1996	0930	13824
HOURLY	UEC-AXNH0S90-CENTRALUSA	05/22/1996	0934	13824
HOURLY	UEC-SBNA0S90-CENTRALUSA	05/17/1996	0802	9216
HOURLY	UEC-SBNA0S90-CENTRALUSA	05/21/1996	0930	5120
HOURLY	UEC-SBNA0S90-CENTRALUSA	05/22/1996	0934	9216
HOURLY	UEC-WWUS-CENTRALUSA	05/21/1996	0930	4096
HOURLY	UEC-WWUS-CENTRALUSA	05/22/1996	0934	5632
SAMPLE1	OVERLAY SET	05/21/1996	1445	2204
SGDBONLY	SGDB-CENTRALUSA-I-64-2	05/17/1996	0813	40448
SGDBONLY	SGDB-CENTRALUSA-I-64-2	05/20/1996	1259	40448

FIGURE 97. Product Manager Window

3.2.18.1 Product Manager File menu. The Product Manager File menu selection is used to delete selected files, purge all but the latest version of each file type, or exit the Product Manager as illustrated in figure 98.



	Content	Date	Time	Size
DELETE	VEC-DDPLETH-1000H-DPD	05/17/1996	0821	1516
HOURLY	BULLETIN - WOUS2	05/22/1996	0934	512
HOURLY	BULLETIN - WWS60	05/22/1996	0934	9728
HOURLY	HIR-DPD -SF-000-CENTRALUSA	05/22/1996	0934	24064
HOURLY	OBSERVATIONS	05/22/1996	0934	2048
HOURLY	RASTER-ASHH-CENTRALUSA	05/22/1996	0934	3072
HOURLY	RASTER-SBARS90-CENTRALUSA	05/22/1996	0934	7680
HOURLY	RASTER-WWUS-CENTRALUSA	05/22/1996	0934	6656
HOURLY	VEC-ASHH-CENTRALUSA	05/21/1996	0930	6656
HOURLY	VEC-ASHH-CENTRALUSA	05/22/1996	0934	6656
HOURLY	VEC-AXMHOS90-CENTRALUSA	05/17/1996	0802	14336
HOURLY	VEC-AXMHOS90-CENTRALUSA	05/21/1996	0930	13824
HOURLY	VEC-AXMHOS90-CENTRALUSA	05/22/1996	0934	13824
HOURLY	VEC-SBARS90-CENTRALUSA	05/17/1996	0802	9216
HOURLY	VEC-SBARS90-CENTRALUSA	05/21/1996	0930	5120
HOURLY	VEC-SBARS90-CENTRALUSA	05/22/1996	0934	9216
HOURLY	VEC-WWUS-CENTRALUSA	05/21/1996	0930	4096
HOURLY	VEC-WWUS-CENTRALUSA	05/22/1996	0934	5632
SAMPLE1	OVERLAY SET	05/21/1996	1445	2204
SCDBONLY	SCDB-CENTRALUSA-I-64-2	05/17/1996	0813	40448
SCDBONLY	SCDB-CENTRALUSA-I-64-2	05/20/1996	1259	40448

FIGURE 98. Product Manager File Menu

3.2.18.1.1 File Delete Product menu. The user may select files with either the mouse or keyboard. Selected files are highlighted. After File Delete selection, the Delete Confirmation dialog appears. Selecting the "Cancel" button cancels the operation (no files are deleted), otherwise, selecting the "OK" button deletes the highlighted files as illustrated in figure 99.

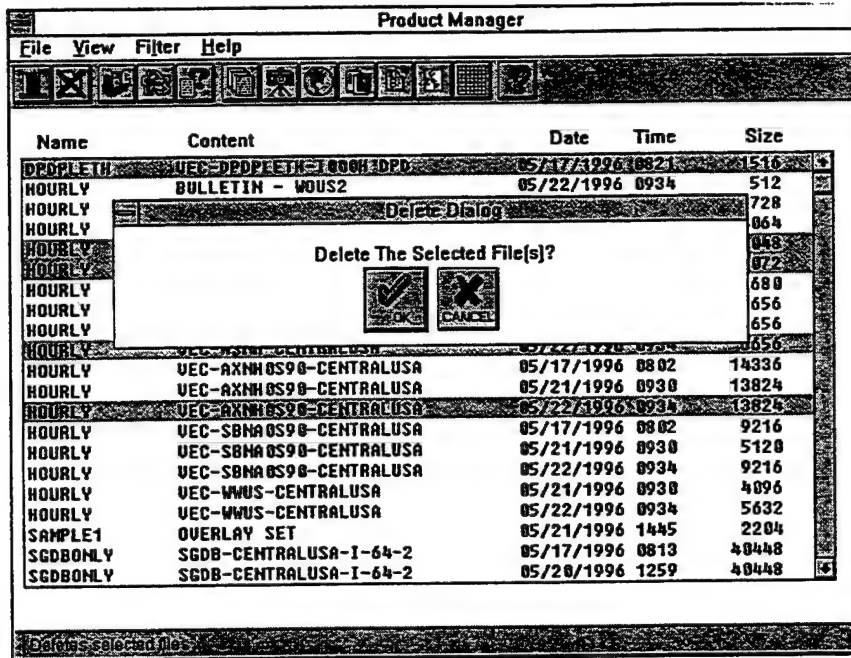


FIGURE 99. Deleting Files

3.2.18.1.2 File Purge Product menu. The File Purge selection deletes all but the latest version of each specified file type. Only files corresponding to selected File Filter File Types will be purged. Refer to 3.2.18.3.1 for a description of how to select File Type options using the File Filter.

3.2.18.1.3 File Exit Product menu. The File Exit selection returns the user to the AFDIS - Program Options window.

3.2.18.2 Product Manager View menu. The Product Manager View menu controls the order in which files are displayed for viewing.

3.2.18.2.1 View Sort by Item menu. The View Sort by Item selection is used to sort the files into ascending order by name. The selection takes effect immediately and redisplayes the current file listed in the new order.

3.2.18.2.2 View Sort by Date menu. The View Sort by Date selection is used to sort the files into ascending order by date. The selection takes effect immediately and redisplayes the current displayed file listed in the new order.

3.2.18.3 Filter File Filter menu. The Filter File Filter option provides the capability to select a group of files versus all the files in the AFDIS data base. The term "filter" means "screening" and permits the user to screen out undesired filenames and examine only those files that meet specific criteria. The user can filter on file name, type, size, date, and time as illustrated in figure 100.

Product Manager Filter Selection

FILE NAME :

TYPES : ☒ OBs ☒ Vectors ☒ Messages
☒ TAFs ☒ Grids ☐ Requests
☒ Bulletins ☒ Overlay Sets ☐ Request Areas
☒ Raster Images ☒ SGDB Images ☐ Comm. Files

FROM THRU

SIZES:

DATE:

TIME:

☒ OK ☒ CANCEL

FIGURE 100. Product Manager Filter Selection Dialog

The Product Manager Filter Selection dialog initially appears with default values for each filter option. These default values are listed as follows:

<u>CATEGORY</u>	<u>DEFAULT</u>	<u>MEANING</u>
Filename	* (wildcard symbol)	Any filename
Type	All checked	All data type files are requested
Sizes	From: 1	Minimum Value
	To: 999999999	Maximum Value - represents maximum value however the actual maximum value will depend on the capacity of the hard drive
Date	From: 01/01/90	Earliest possible create date value
	Thru: 01/01/94	Current Date
Time	From: 0000	Minimum time value
	Thru: 2359	Maximum time value

The default filter values are restored when AFDIS is restarted; however, the filter values used during an AFDIS session will be retained for that session.

The following examples illustrate possible uses for the filter:

- a. To list only the observation files, click off the TAF, Raster Images, Vectors, Grids, Overlay Sets, SGDB Images, Bulletins, Messages, Requests, Request Areas, Comm. Files check boxes; then select the OK button. Refer to figure 101.

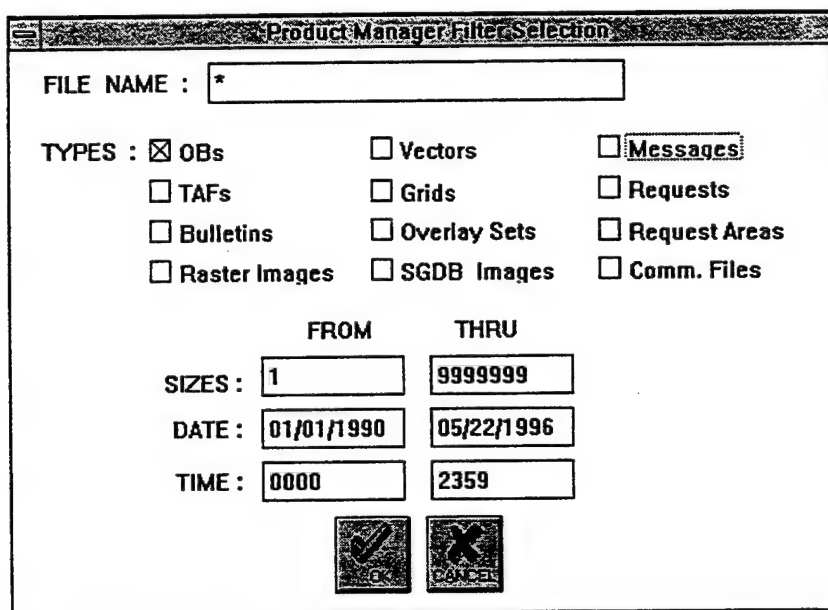


FIGURE 101. Filter Selection - Observation Files

- b. To list all raster files with sizes between 60000 and 100000 bytes, click off all boxes except the Raster Images box; enter "60000" in the SIZES FROM entry text box and "100000" in the SIZES THRU entry text box; then select the OK button. Refer to figure 102.

Product Manager Filter Selection

FILE NAME : *

TYPES : ☐ OBs ☐ Vectors ☐ Messages
☐ TAFs ☐ Grids ☐ Requests
☐ Bulletins ☐ Overlay Sets ☐ Request Areas
☒ Raster Images ☐ SGDB Images ☐ Comm. Files

FROM THRU

SIZES: 60000 100000

DATE: 01/01/1990 05/22/1996

TIME: 0000 2359

OK CANCEL

FIGURE 102. Filter Selection - Raster Files

- c. To list all observation and forecast files received today, click on the OBs and TAFs check boxes and click off (deselect) the remaining TYPES boxes. Enter the current date, e.g., 22 May 1996, in the FROM DATE entry text box; the THRU DATE entry box will already have the current date as this is the default value. Ensure the TIME FROM entry text box contains 0000 and the TIME THRU entry text box contains 2359. Then select the OK button. Refer to figure 103.

Product Manager Filter Selection

FILE NAME : *

TYPES : ☒ OBs ☐ Vectors ☐ Messages
☒ TAFs ☐ Grids ☐ Requests
☐ Bulletins ☐ Overlay Sets ☐ Request Areas
☐ Raster Images ☐ SGDB Images ☐ Comm. Files

FROM THRU

SIZES: 1 999999

DATE: 05/22/1996 05/22/1996

TIME: 0000 2359

OK CANCEL

FIGURE 103. Filter Selection - Date

3.2.18.3.1 Filter Selection - FILE NAME. This box is used to filter (select) files by name. The user may click on this box and select a specific filename, all filenames, or a group of filenames beginning with specified characters.

To filter out all but a specific filename file, click in the FILE NAME box and type in the selected filename.

To select all filenames, click in the FILE NAME box and type in an asterisk "*". The "*", is a wildcard symbol and represents any valid set of characters. Thus "*" represents all valid filenames.

To select a group of filenames beginning with identical characters, click in the FILE NAME box, type the specific beginning character(s) followed by a "*". For example, if "US12*" is typed in, all files beginning with the four characters "US12" would be selected. The wildcard symbol will work properly if it is the only character in the box or if it follows a group of characters. A wildcard symbol will not operate as expected if used as a prefix to a group of characters, e.g., "*US12" or in the middle of a filename, e.g., "US*12".

3.2.18.3.2 Filter Selection - TYPES. The check boxes are used to select files containing specific types of data. Selected boxes will contain an "X" and those not selected will be empty. To select a type of data, click in its box and an "X" will appear confirming the selection. If a box already has an "X", clicking the box will deselect the box and cause the "X" to disappear.

3.2.18.3.3 Filter Selection - SIZES. The SIZE boxes are used to filter files within a selected size range. The box under FROM is the minimum file size and the box under THRU is the maximum file size. The default maximum size is displayed in the THRU column at the beginning of each session.

3.2.18.3.4 Filter Selection - DATES. The DATE boxes are used to filter files within a selected range of dates. The entry in the DATE box under FROM is the earliest date and the entry in the DATE box under THRU is the latest date. Dates should be entered in the format DD/MM/YYYY where DD is the day, MM is the month and YYYY is the year.

3.2.18.3.5 Selection Filter - TIME. The TIME boxes are used to filter files having times within a selected range. The times are based on a 24-hour clock (valid range of 0000 - 2359). The entry in the TIME box under FROM is the earliest time within the range and entry in the TIME box under THRU is the latest time within the range.

3.2.18.3.6 Filter Selection - OK/Cancel. To implement the File Filtering selections, click on the "OK" button. To cancel File Filter selections and exit the File Filter menu, click on the "Cancel" button.

3.2.18.4 Product Manager window toolbar. The Product Manager window toolbar options include: Exit, Delete, Sort by Name, Sort by Date, Filter, List All, List Raster, List SGDB, List Chart, List Bulletin, List Plot, List Grid, and Help buttons. Refer to figure 104.

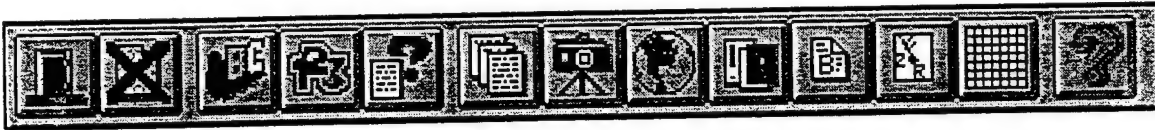


FIGURE 104. Product Manager Window Toolbar

3.2.18.5 Product Manager error messages. Following is a list of the Product Manager error messages:

File Name Entry Error = Filename

Minimum File Size Entry Error

Maximum File Size Entry Error

From Date Entry Error

Thru Date Entry Error

From Time Entry Error

Thru Time Entry Error

Cannot delete Vector file. Vector currently used by an Overlay Set. Remove vector from Overlay Set and try again.

Cannot delete Imagery file. Imagery currently used by an Overlay Set. Remove imagery from Overlay Set and try again.

Cannot Delete an RWM area

3.2.19 Communications Configuration window. The Communications Configuration window provides the capability to set, change, and store AFDIS communication parameters or commercial PSDN names and passwords as illustrated in figure 105.

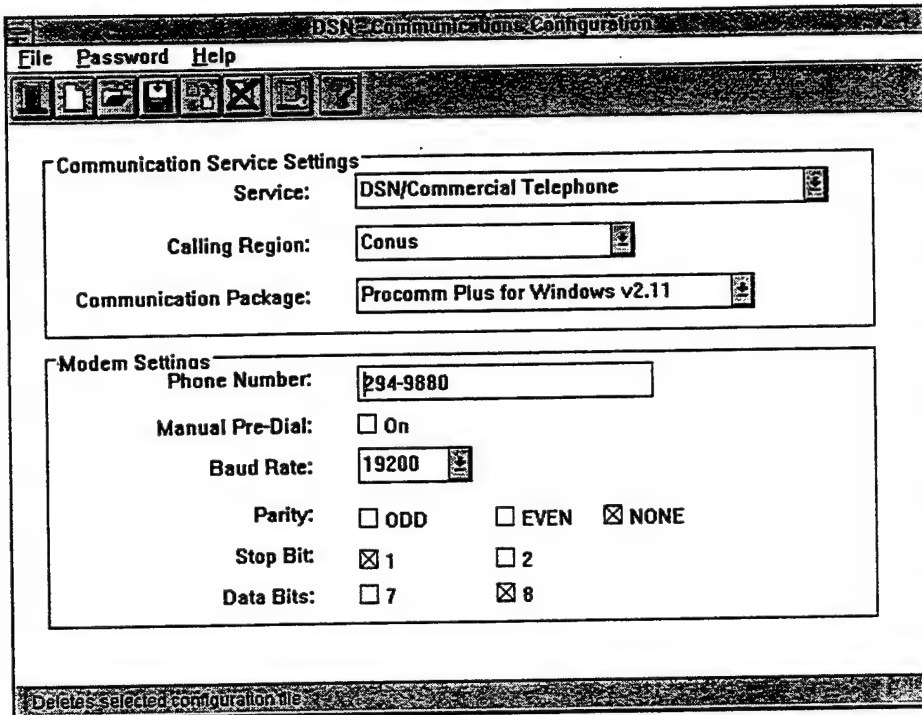


FIGURE 105. Communications Configuration Window

3.2.19.1 Communications Configuration overview. The AFDIS software accommodates various communication services. Each communication service, e.g., commercial PSDN, requires different Communications Configuration settings. The Communications Configuration display provides the capability to open, store, and implement these settings.

3.2.19.2 Communications Configuration File menu. Use the Communications Configuration File menu options to create, open, save, delete, or exit the Communications Configuration window as illustrated in figure 106.

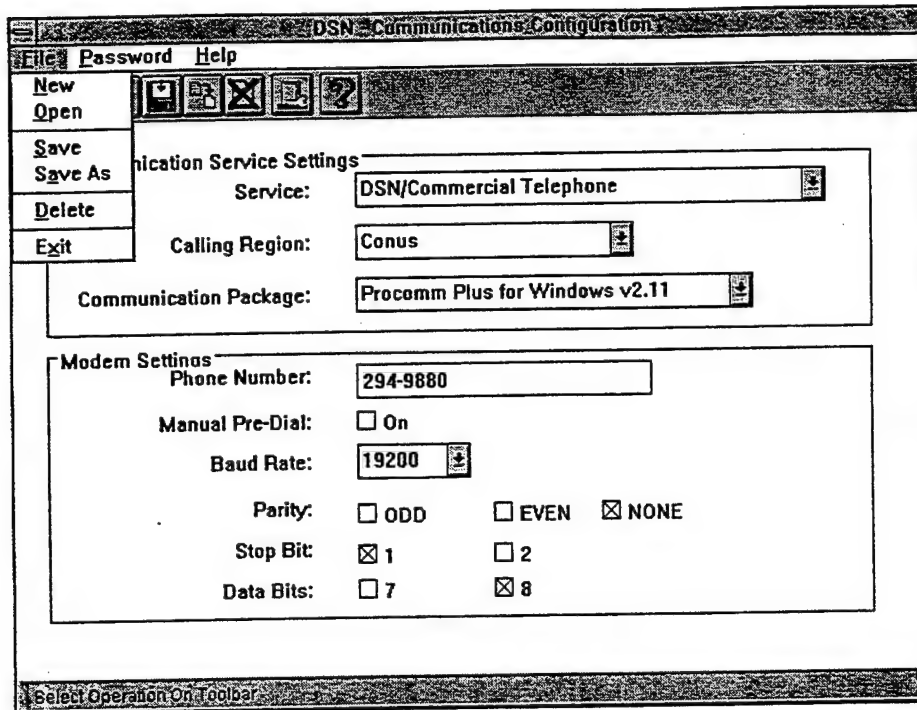


FIGURE 106. Communications Configuration File Menu

3.2.19.2.1 File New Configuration menu. To create a new Communications Configuration file, select File/New. Select items and enter telephone number, as required. Refer to 3.2.19.5 through 3.2.19.13 for a description of Communications Configuration options.

3.2.19.2.2 File Open Configuration menu. To open a Communications Configuration file, select File Open. The File Open dialog will appear. Select a communication configuration from the file list and press the "OK" button. The Communications Configuration window will appear with the communication and modem settings.

3.2.19.2.3 File Save Configuration menu. The File Save option saves the current parameters to an existing communication configuration file.

3.2.19.2.4 File SaveAs Configuration menu. The File SaveAs option saves current parameters to a new communication configuration file. When selected, the SaveAs dialog will appear. Enter a filename which may consist of up to 12 printable, ASCII characters.

3.2.19.2.5 File Delete Configuration menu. The File Delete option deletes the current, open communication configuration file. The Delete dialog will appear requesting confirmation of the delete operation. Use the AFDIS Product Manager to delete multiple files with a single action.

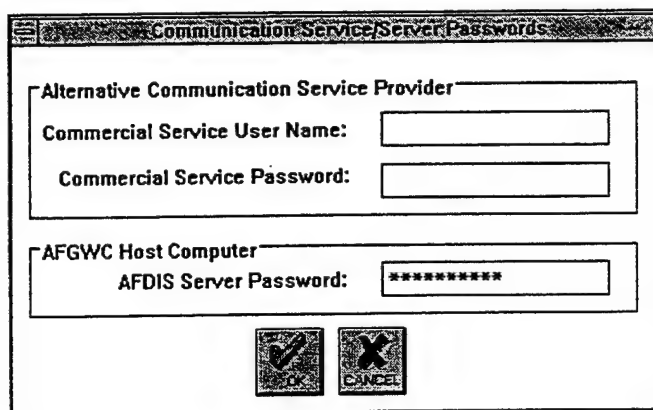
3.2.19.2.6 File Exit Configuration menu. Use the File Exit option to exit the Communications Configuration window and return to the AFDIS - Program Options window. The current Communications Configuration file is set to active upon exiting the window.

3.2.19.3 Communications Configuration Password menu. Use the Password option to enter, modify, and save the service provider user name and password and the AFGWC host computer password as illustrated in figure 107.

The screenshot shows a window titled "DSN Communications Configuration". It has a menu bar with "File", "Password", and "Help". Below the menu bar is a toolbar with icons for "Service/Server", "Communication Service Settings", "Modem Settings", and "Help". The "Service/Server" menu is open, showing a list of services. The "Communication Service Settings" section contains three dropdown menus: "Service" (set to "DSN/Commercial Telephone"), "Calling Region" (set to "Conus"), and "Communication Package" (set to "Procomm Plus for Windows v2.11"). The "Modem Settings" section contains several fields and checkboxes: "Phone Number" (294-9880), "Manual Pre-Dial" (checkboxes for On and Off, with Off selected), "Baud Rate" (19200), "Parity" (checkboxes for ODD, EVEN, and NONE, with NONE selected), "Stop Bit" (checkboxes for 1 and 2, with 1 selected), and "Data Bits" (checkboxes for 7 and 8, with 8 selected). At the bottom of the window is a status bar that reads "Select Operation On Toolbar".

FIGURE 107. Communications Configuration Password Menu

3.2.19.3.1 Communication Service/Server Passwords dialog. Select the password option to display the dialog. Enter the user name and passwords provided by AFGWC as illustrated in figure 108. Once entered, selection of the "OK" button stores these entries. The user name and passwords must be changed when AFGWC changes these access words.



The dialog box is titled "Communication Service/Server Passwords". It contains two main sections. The first section is labeled "Alternative Communication Service Provider" and contains two input fields: "Commercial Service User Name:" and "Commercial Service Password:". The second section is labeled "AFGWC Host Computer" and contains one input field: "AFDIS Server Password:" with the text "*****" inside. At the bottom of the dialog box are two buttons: "OK" and "CANCEL".

FIGURE 108. Communication Service/Server Passwords Dialog

3.2.19.4 Communications Configuration window toolbar. The Communications Configuration window toolbar options include: Exit, New, Open, Save, SaveAs, Delete, Password, and Help buttons. Refer to figure 109.

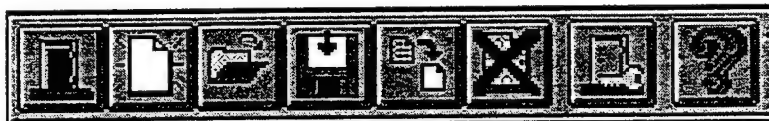


FIGURE 109. Communications Configuration Window Toolbar

3.2.19.5 Communication Service Selection. Select the communication service, e.g., DSN/commercial telephone or PSDN. The calling region option is used to select PROCOMM PLUS script files for specific regional communication needs. The user must select either PROCOMM PLUS for DOS, PROCOMM PLUS for Windows version 2.11, or PROCOMM PLUS for Windows 3.0. See figure 110.

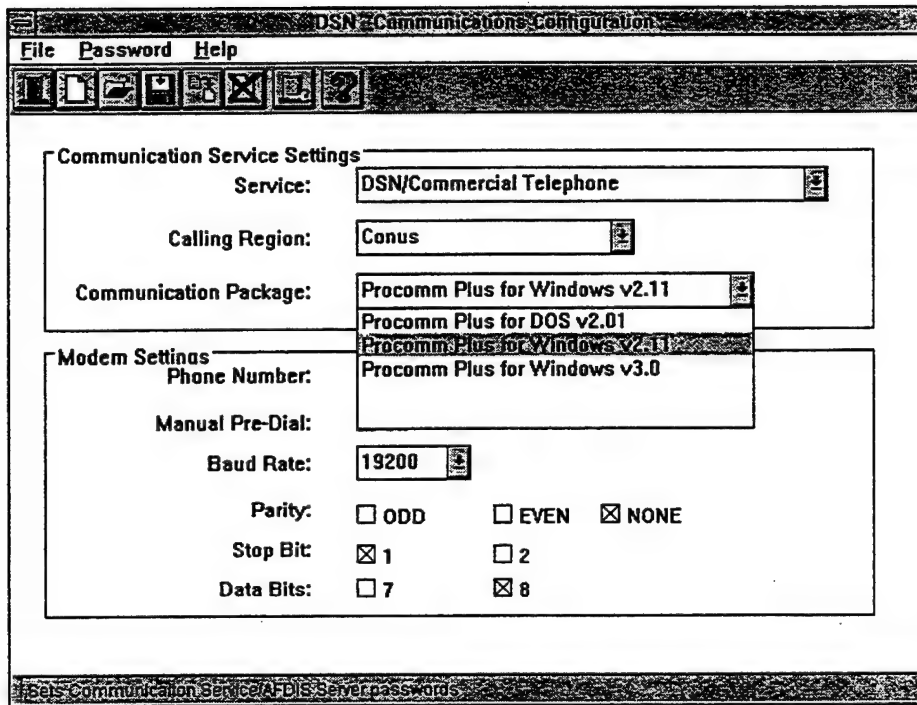


FIGURE 110. Communications Service Selections

3.2.19.6 Modem selections. Select the appropriate modem settings for the baud rate, priority, stop bit and data bit for compatibility with the selected communication service. Manual pre-dial may be selected. Refer to 3.2.19.10 for information on manual dialing.

3.2.19.7 Setting phone numbers. Enter the DSN, DDN, commercial PSDN, or commercial phone number with any required prefixes. Use a comma, ",", to insert pauses where needed.

3.2.19.7.1 Setting phone pauses. The AFDIS communication software, e.g., PROCOMM PLUS, permits pauses between numbers. Enter a comma (,) for a two or three second delay in the dialing sequence. Dashes (-) may be used to improve readability but have no effect on dialing.

3.2.19.8 Selecting system settings. The implemented Communications Configuration file values are shown upon entry to the Communications Configuration window. To create a new Communications Configuration file, select the File New menu option. Configuration information must be entered for communication service and modem parameters. The modem settings are set to default values until changed. Refer to figure 111.

The screenshot shows a window titled "[NEW] Communications Configuration". It has a menu bar with "File", "Password", and "Help". Below the menu bar is a toolbar with icons for file operations. The window is divided into two main sections: "Communication Service Settings" and "Modem Settings".

Communication Service Settings:

- Service: DSN/Commercial Telephone
- Calling Region: Conus
- Communication Package: Procomm Plus for DOS v2.01

Modem Settings:

- Phone Number: 271-9880
- Manual Pre-Dial: ☐ On
- Baud Rate: 19200
- Parity: ☐ ODD ☐ EVEN ☒ NONE
- Stop Bit: ☒ 1 ☐ 2
- Data Bits: ☐ 7 ☒ 8

At the bottom of the window, there is a button labeled "Exit back to the AFDIS Options Window".

FIGURE 111. Communication Settings

Select the desired modem settings and enter the appropriate telephone number for the operation as illustrated in figure 112.

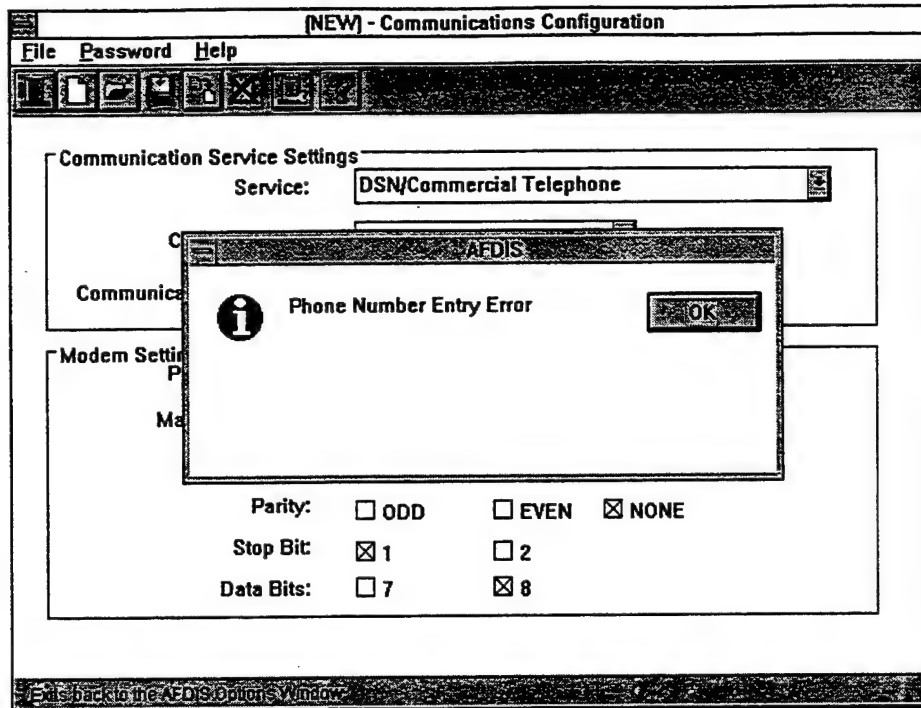


FIGURE 112. Setting Telephone Number and Modem Settings

3.2.19.9 DDN connectivity selection. The DDN Modem Connection option initiates a dial-in session with a DDN TAC or other DDN-connected host computer. Once connected, the communication manager displays a message and prompts the user to enter the user name and password. After successful DDN log in, the communication manager waits sixty seconds for successful log in acknowledgement. A successful log in will result in the automated sequence starting to transfer the product request and returning products. The AFDIS display will return once transfers have been completed. Note that the delivered scrip file only supports access to DDN via a TAC. Access through a non-TAC, DDN-connected host computer will require a specially developed script file. Contact AFDIS technical support for further information.

3.2.19.10 Manual pre-dial selection. Operational locations may require special actions, e.g., telephone operator assistance, to gain access to long distance communication lines. Use the Manual Pre-Dial check box to implement a communication pause during which telephone operator interaction can occur. The need for manual dialing is generally due to one of the following:

- a. The telephone system does not permit unassisted access to outside telephone lines.
- b. The closest commercial PSDN node is a long distance charge and a telephone operator is required.

- c. Local phone policy requires authorization for long distance phone charges prior to dialing.
- d. The local telephone system has a call-back feature to queue long distance access.

Select the Manual Dial check box on the Communications Configuration window and select the File Save menu option.

3.2.19.10.1 Manual Dial Equipment. The manual dial option supports several equipment configurations using a switch box or modem as illustrated in figure 113.

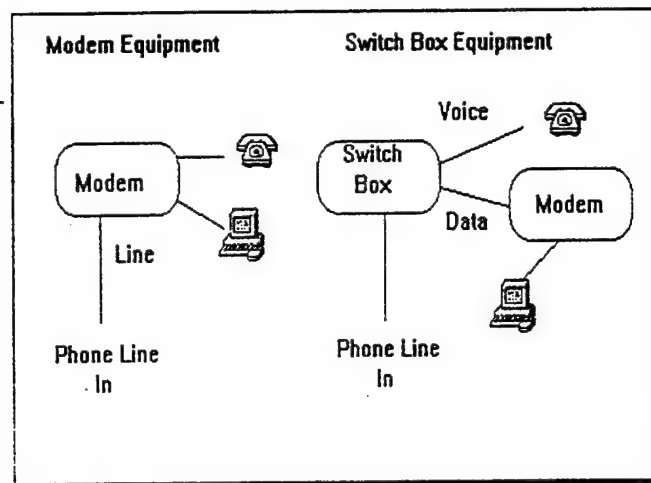


FIGURE 113. Manual Dial

3.2.19.10.2 Setting manual dial. Select the Manual Pre-Dial check box in the Communications Configuration window to activate the manual dialing option as illustrated in figure 114. Note: If using a switch box, place one or more pauses, i.e., ",", before the telephone number to permit time to switch from phone to modem.

The screenshot shows a window titled 'NEW Communications Configuration'. It has a menu bar with 'File', 'Password', and 'Help'. Below the menu bar is a toolbar with several icons. The main area is divided into two sections: 'Communication Service Settings' and 'Modem Settings'. In the 'Communication Service Settings' section, there are three fields: 'Service:' with a dropdown menu showing 'DSN/Commercial Telephone', 'Calling Region:' with a dropdown menu showing 'Conus', and 'Communication Package:' with a dropdown menu showing 'Procomm Plus for DOS v2.01'. In the 'Modem Settings' section, there are several fields: 'Phone Number:' with a text box containing '271-9880', 'Manual Pre-Dial:' with a checkbox labeled 'On' that is checked, 'Baud Rate:' with a dropdown menu showing '19200', 'Parity:' with three checkboxes: 'ODD' (unchecked), 'EVEN' (unchecked), and 'NONE' (checked), 'Stop Bit:' with two checkboxes: '1' (checked) and '2' (unchecked), and 'Data Bits:' with two checkboxes: '7' (unchecked) and '8' (checked). At the bottom of the window, there is a status bar that says 'Select Operation On Toolbar'.

FIGURE 114. Manual Pre-Dial Option

3.2.19.10.3 Manual dialing procedures. Use the Product Retrieval window to send the product request. Refer to figure 115 for MS-DOS or figure 116 for MS Windows.

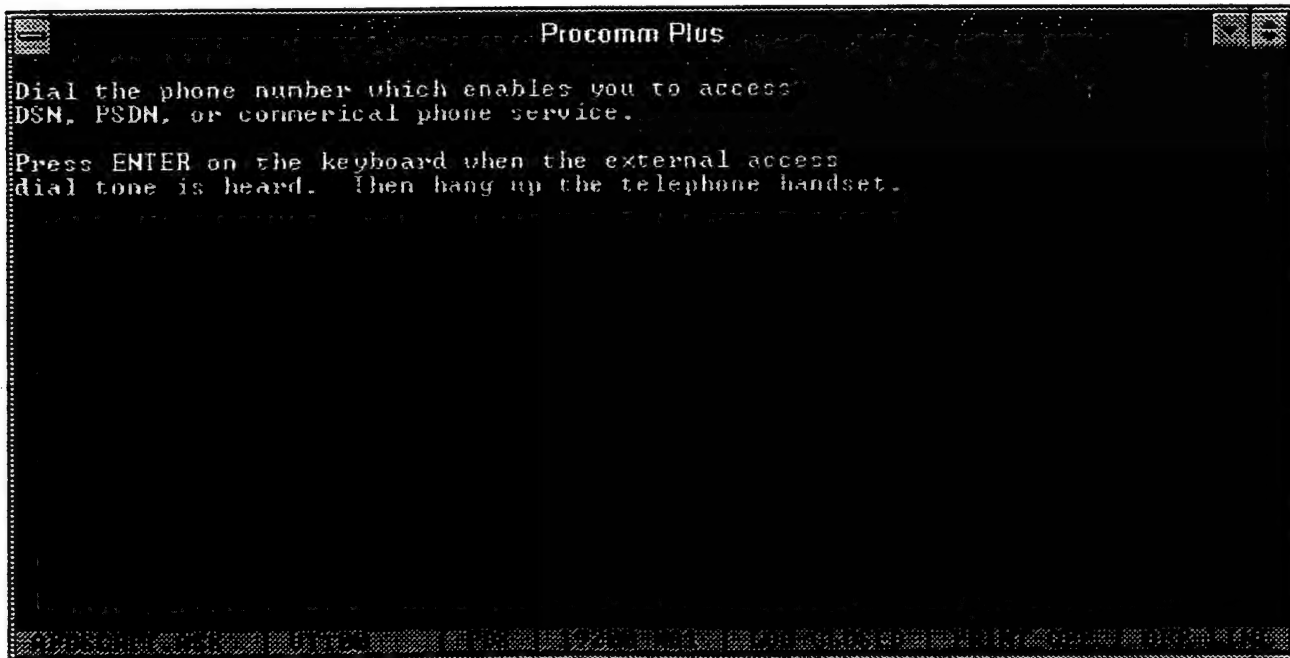


FIGURE 115. PROCOMM PLUS Manual Dial Message (DOS Version)

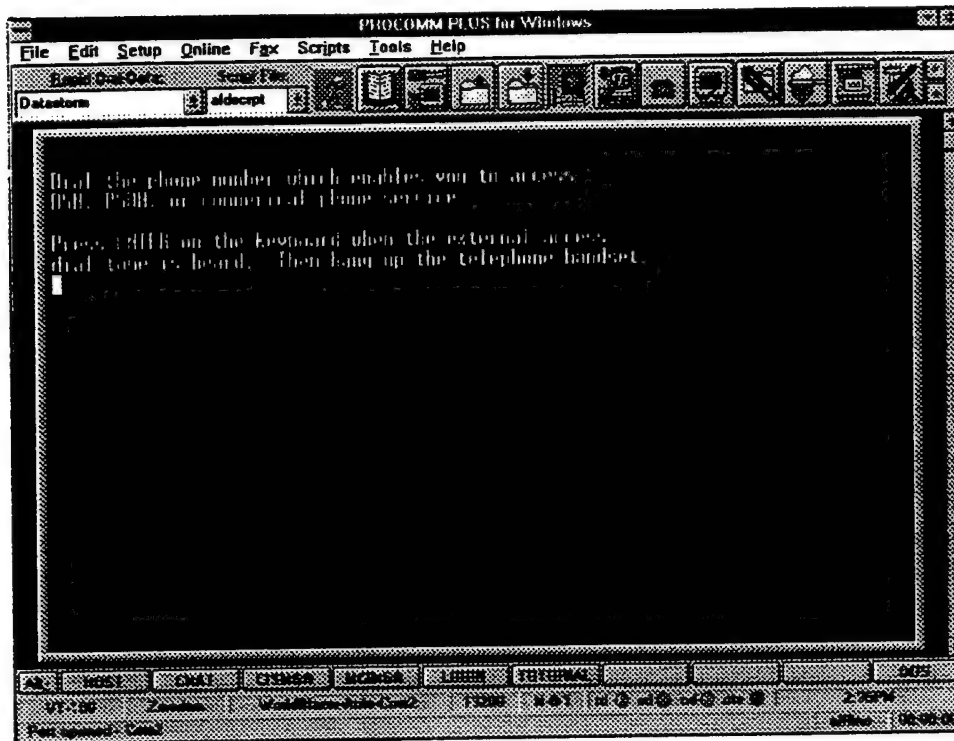


FIGURE 116. PROCOMM PLUS Manual Dial Message (Windows Version)

The PROCOMM PLUS window will appear and display the following messages:

Dial the phone number which enables you to access
DSN, PSDN, or commercial phone service.

Press ENTER on the keyboard when the external access
dial tone is heard. Then hang up the telephone handset.

Use the telephone to contact the telephone operator and gain access to long distance service. If using a modem with "phone" and "line" ports, wait for a dial tone, press the "Enter" key, then hang up the telephone handset. If using a switch box, wait for a dial tone; press the "Enter" key; change the switch from "voice" to "data"; then hang up the telephone handset. The PROCOMM PLUS script will continue and will dial the telephone number entered in the Communications Configuration.

Note: Remember to place required pauses (",") when entering telephone numbers.

3.2.19.11 Baud rate. Baud rate is the speed at which data are transferred. The available rate depends on the quality of the communication service and the modem capability. Select 19200 baud if excellent communication service is available and your modem is capable of handling 19200 baud. The 2400 baud service is more commonly available, although its use increases transfer time.

3.2.19.12 Parity. Parity is used to detect data transmission errors in each data character transferred. Parity determines how the algorithm determines data validity. The sending and receiving devices must agree on the parity setting. "Odd" or "Even" settings are valid only when using seven data bits.

3.2.19.13 Stop bit. Stop bits provide a means for the receiving computer to detect the end of a data byte. Settings of "1" or "2" stop bits are available.

3.2.19.14 Communications Configuration error messages.
Following is a list of the Communications Configuration error messages:

 Password Must Be Between 6 And 31 Alphanumeric Characters.

 Phone Number Entry Error

 Invalid Phone Entry

3.2.20 Using Help. Help information is available using the hypertext help facility provided with AFDIS version 4.0. Select the Help/Content menu option to display a Help Topic window containing a list of help topics as illustrated in figure 117.

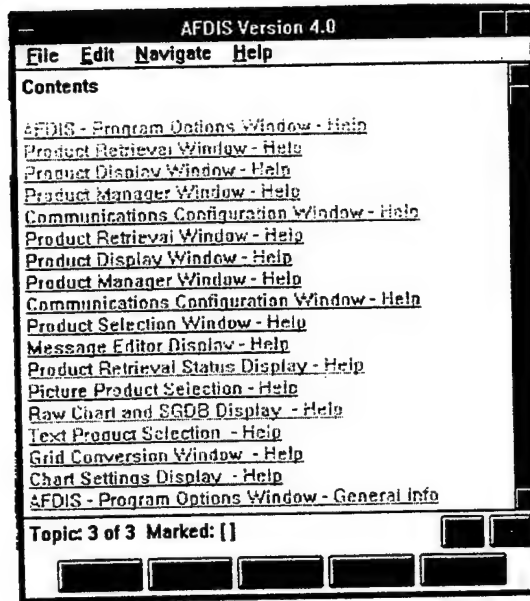


FIGURE 117. Help Topic Window

3.2.20.1 Selecting Help topics. When a topic is selected, the associated help information is displayed in the Help viewer window. See figure 118.

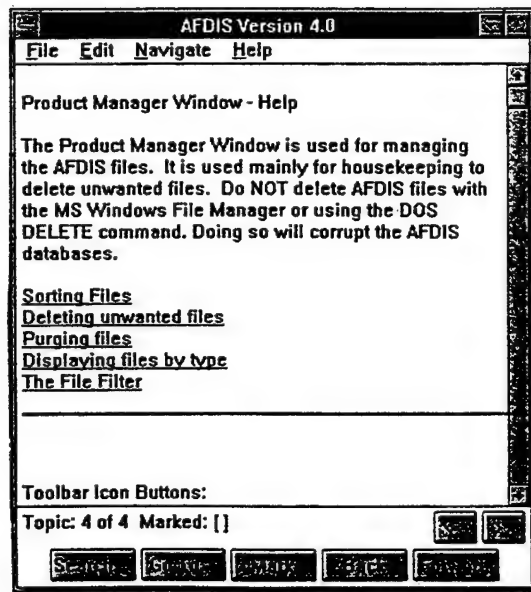


FIGURE 118. Help Viewer Window

3.2.20.2 Navigating through Help. The Help topic and viewer windows contain navigation controls for moving from one Help topic to another. The following is a list of Help options:

- Search - Invokes the Search dialog which the user can use to locate Help information by topic name.
- Go To - Invokes the Go To dialog which the user can navigate to reach Help index, glossary, table of contents, or marked topics.
- Mark - Indicates the current topic and adds its name to the list of bookmarks in the Go To dialog. If the current topic is already marked, clicking this button will remove the mark.
- Back - The Help facility maintains a topic thread, that is, a list of topics previously displayed in the topic window. Clicking this button moves to the previously viewed topic in the list and displays it in the topic window.
- Forward - Moves to the next topic and displays the topic in the topic window. This button is disabled until the Back button has been clicked at least once.
- >> - Moves to the next logically related topic and displays it in the topic window.
- << - Moves to the previous topic in the browse sequence and displays in the topic window.

3.2.20.3 Exiting Help. Select the File/Exit menu option or the window's close button to exit the Help facility.

3.3 Advanced topics. The following section discusses advanced features supported by the MS Windows version of AFDIS.

3.3.1 Running multiple programs. Several applications can be running and displayed simultaneously. The following subparagraphs describe some examples.

3.3.1.1 AFDIS and Paint Shop Pro. Once a raster product has been selected and displayed, the Paint Shop Pro window can be resized or minimized. With a resized or minimized Paint Shop Pro window, the AFDIS window can be accessed for further processing. Scenarios such as submitting a request while displaying or printing a raster product are possible. Refer to figure 119.

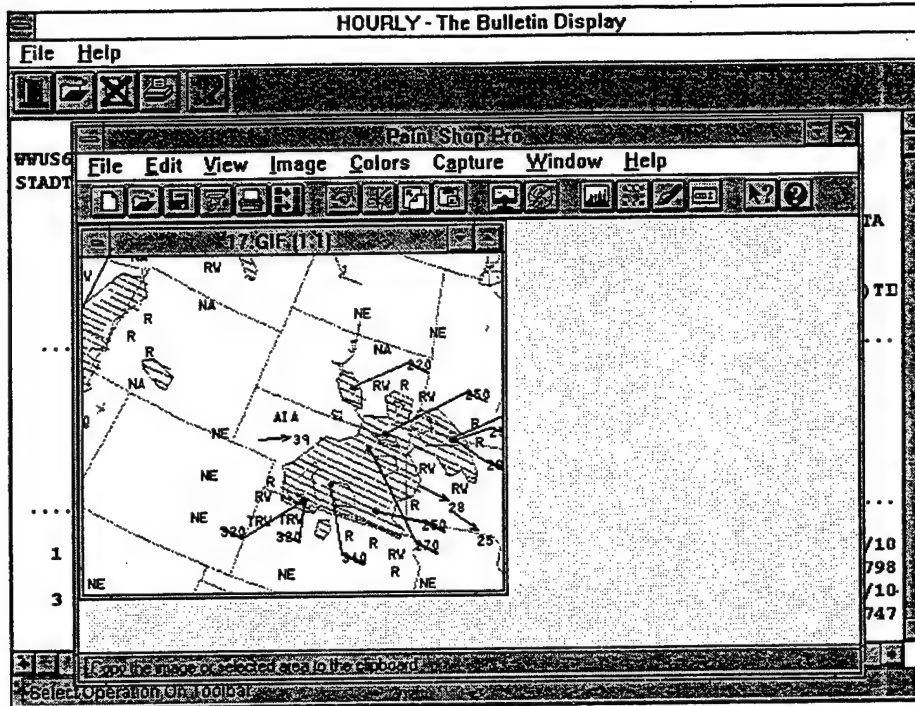


FIGURE 119. AFDIS and Paint Shop Pro

3.3.1.2 AFDIS and PROCOMM PLUS. Once invoked, PROCOMM PLUS can be displayed in a window by pressing "Alt+Enter". PROCOMM PLUS can then be resized or minimized, and other applications can be executed concurrently, e.g., Product Manager.

3.3.1.3 Memory conflicts. With several concurrent applications executing, memory conflicts may occur. A Microsoft Windows dialog may be displayed stating the application cannot be executed until other applications are terminated. Terminate one or more applications, then retry running the application.

3.3.2 Raster product format translation. Raster products can be translated to other image formats. With Paint Shop Pro active, select the File/SaveAs option. This option will prompt for the filename, disk directory, and image format as illustrated in figure 120.

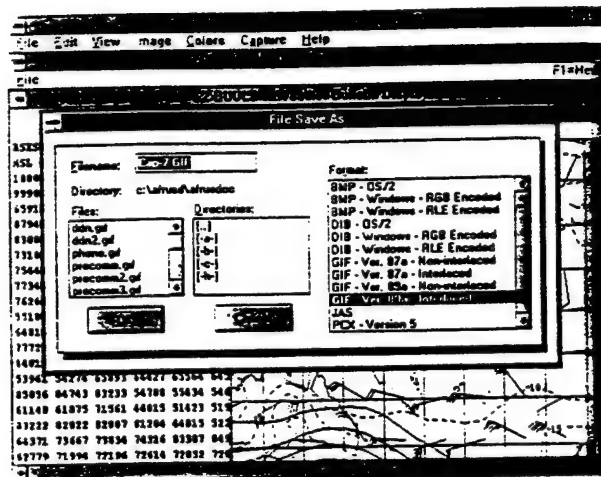


FIGURE 120. Raster Product Format Translation

3.3.3 Adding material to raster products. Convert the GIF formatted raster products into image formats which other applications can display and manipulate, e.g., ZSoft image file format (PCX), tagged image file format (TIFF), BMP. The MS Windows 3.1 Paintbrush application will accept PCX or BMP formatted images for display, annotation, printing, and storage. Reference the MS Window 3.1 User Guide for additional information on Paintbrush.

3.3.3.1 Converting GIF formats to Paintbrush formats. Use the Paint Shop Pro File/SaveAs option to convert the GIF formatted Manual Raster Product to a bit map (BMP Windows, RGB Encoded) format. This image format can be opened and read by Paintbrush but requires more disk space than GIF formats. See figure 121.

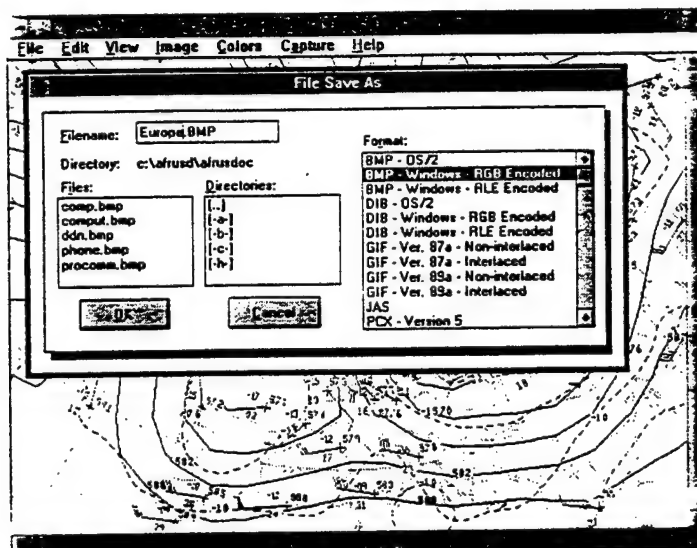


FIGURE 121. Converting GIF Formats to Paintbrush Formats

3.3.3.2 Displaying an image in Paintbrush. To display an image in Paintbrush, select the Paintbrush icon from the Program Manager as illustrated in figure 122. Use the File Open option to select and open files. Once opened the file will be displayed and available for manipulation.

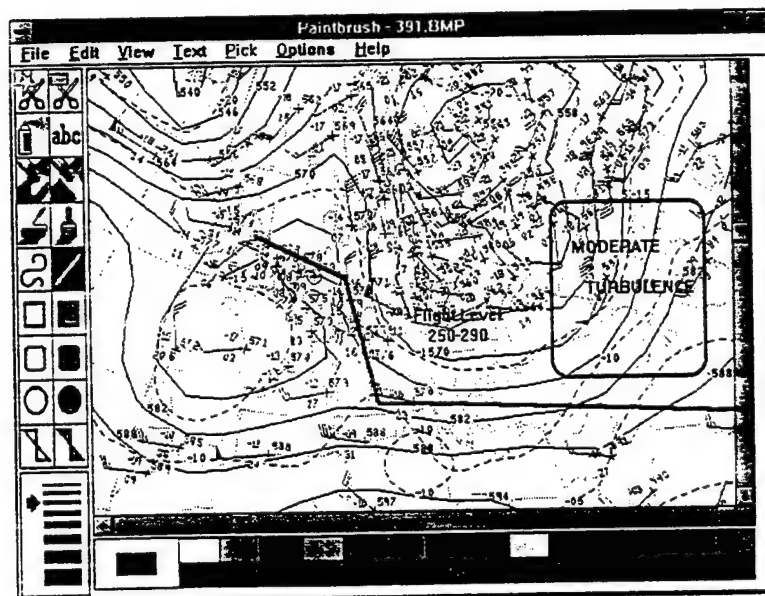


FIGURE 122. Displaying an Image in Paintbrush

3.4 Reporting AFDIS problems. The AFDIS technical support staff is normally available between 1300 and 2100 GMT, Monday through Friday. For general assistance with AFDIS, contact the GDO at DSN phone number 271-2586, 24 hours every day. Prior to reporting AFDIS problems, please have the following information available:

Personal Data: Name, Rank, Office Symbol, Phone number

Problem Description: Error messages, operational scenario which caused the problem, or a general description

System Configuration: Computer, modem, and hard disk type and capacity

AFDIS Environment: MS Windows or UNIX

AFDIS Version: AFDIS Version number

3.4.1 Submitting a request for scanned products. Contact the GDO at DSN 271-2586 to request scanned products.

3.4.2 Submitting a request for special support. Contact the AFGWC Duty Officer at DSN 271-2586 to request special support.

4 SYSTEM ERROR MESSAGES

Error messages are listed with each topic. Consult the applicable topic for error messages. The following is a system error message:

staticdb.txt does not exist

5 NOTES

5.1 List of acronyms and abbreviations.

AFB	Air Force Base
AFDIS	AFGWC Dial-In Subsystem
AFGWC	Air Force Global Weather Central
ASCII	American Standard for Coded Information Interchange
AT&T	American Telephone and Telegraph
bis	Bit Isochronous
BMP	Bit Map Data Format
CDRL	Contract Data Requirements List
CONUS	Continental United States
COTS	Commercial off-the-shelf
CPU	Central Processing Unit
DDN	Defense Data Network
DEC	Digital Equipment Corporation
DMSP	Defense Meteorological Satellite Program
DOD	Department of Defense
DOS	Disk Operating System

DPI	Dots per Inch
DSN	Defense Switching Network
FTP	File Transfer Protocol
GDO	AFGWC Duty Officer
GIF	Graphics Interchange Format
GMT	Greenwich Mean Time
GSM	Global Spectral Model
GUI	Graphical User Interface
HIRAS	High Resolution Analysis System
ICAO	International Civil Aviation Organization
IR	Infrared
Kbyte(s)	Kilobyte(s)
KQ	Non-standard Weather Station Identifier Prefix
lat/lon	Latitude/longitude
Mbyte(s)	Megabyte(s)
METAR	Meteorological Aerodrome Report
MHz	Megahertz
MNP	Microcom Networking Protocol; a trademark of Microcom, Inc.
MS	Microsoft
MS-DOS	Microsoft-Disk Operating System
nm	Nautical Mile
NOAA	National Oceanic and Atmospheric Administration
NODDS	Navy Oceanographic Data Distribution System
OB(s)	Weather observation(s)
PC	Personal computer
PCX	ZSoft image file format
PSDN	Packet Switch Data Network
PSP	Paint Shop Pro
RAM	Random Access Memory
RGB	Red, green, blue
RTNEPH	Real Time Nephanalysis
RWM	Relocatable Window Model
SDHS	Satellite Data Handling System
SGDB	Satellite Global Data Base
SSM/I	Special Sensor Microwave/Imager
SUM	Software User's Manual
SVGA	Super video graphics adapter
TAC	Terminal access controller
TAF(s)	Terminal Aerodrome Forecast(s)
TCL	Tool Command Language
TIFF	Tagged Image File Format
VAX	Virtual Address Extension
VGA	Video graphics adapter
VIS	Visible
Z	Zulu time (GMT)

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APPENDIX A

AFDIS INSTALLATION

10.1 Purpose. This appendix provides instructions for installing AFDIS on a PC.

10.2 Prior to AFDIS installation. Before installing the AFDIS software, make backup copies of the original floppy disk(s). Reference the appropriate MS-DOS or MS Windows manual for disk copying procedures.

The user should have the following system configuration information before proceeding with the AFDIS installation:

- a. Know the disk and path name to the Windows directory (commonly c:\windows).
- b. Know the disk and path name to the PROCOMM PLUS directory (commonly c:\PCPLUS for the MS-DOS version, c:\PROWIN2 for the Windows v2.11 PROCOMM PLUS version, or c:\PROWIN3\PROGRAMS for the Windows v3.0 PROCOMM PLUS version).
- c. Ensure that PROCOMM PLUS is already installed.
- d. Ensure no AFDIS.OLD or PSP.OLD directories reside on the destination disk drive. The AFDIS installation software saves the current version of AFDIS to AFDIS.OLD. If the user has created a directory with the name AFDIS.OLD, the directory must be renamed prior to executing the installation program. If the AFDIS.OLD directory exists as a result of a failed installation (this directory will contain the current version of AFDIS software) ensure that the AFDIS.OLD directory is renamed or copied to the original directory prior to deleting the AFDIS.OLD directory.
- e. Before using AFDIS to access AFGWC, an authorized user ID and password must be obtained. During normal duty hours (M-F 0730-1630 CST) contact the AFDIS Manager, DSN 271-5987. For emergencies/contingencies (outside normal duty hours) contact the Global Duty Officer, DSN 271-2586. Be prepared to provide name, rank, organization, duty phone number, authorization, and any other special requirements. In addition, a PSDN user ID/password and AFDIS host computer password may have to be obtained.

Note: Usernames and passwords should not be distributed freely. Users may be required to periodically re-enroll based on AFGWC security procedures.

10.3 AFDIS installation. The following subparagraphs contain step by step procedures for AFDIS installation. During the AFDIS installation process, the user is provided the option to install AFDIS on any available disk drive.

The installation program has four phases:

- a. Obtain and check the paths to the working directories and files
- b. Check for an existing AFDIS directory and if found rename to AFDIS.OLD
- c. Copy the files from the installation disk to the appropriate directories. If the installation fails, the user can immediately fall back to the existing version by deleting the newly created AFDIS directory and renaming the AFDIS.OLD directory to AFDIS.
- d. Once the newly installed version is working properly, the user may reclaim several megabytes of disk space by deleting the AFDIS.OLD directory and all related files.

10.3.1 AFDIS (Version 4.0) installation. To install AFDIS software, use the following procedure:

- a. Begin with the PC executing MS Windows 3.1 or Windows 95 and insert the AFDIS Install Disk 1 into the appropriate drive.
- b. Start the AFDIS installation software by:
 1. Selecting FILE/RUN from the main menu if using Windows 3.1 or by selecting Start, then Run if using Windows 95
 2. When the RUN dialog box is presented, enter:

A:\INSTALL

Note: "A" represents the 1.44 megabyte (MB) disk drive where the AFDIS Install Disk 1 disk was placed.
- c. Read any informational messages the installation software displays. Answer any questions when prompted. Reference the information cited in 10.2. The user will be prompted to insert AFDIS Install Disk 2.

- d. Verify that the Paint Shop Pro directory ("c:\psp") is part of the search path as listed in the "AUTOEXEC.BAT" file. If not, add c:\psp; to the "PATH" line similar to the following:

```
"path=c:\dos;c:\windows;c:\pcplus;c:\psp"
```

It is recommended that the user invoke the Microsoft editor to change the AUTOEXEC.BAT file after adding the PSP directory to the path.

Remove the AFDIS software installation disk 2, then boot the computer or run the "AUTOEXEC.BAT" file by entering the following command at the system prompt:

```
autoexec.bat
```

- e. Install Paint Shop Pro according to instructions in 10.6.
- f. The following steps describe installation of the AFDIS icon in a Windows 3.X group. If using Windows 95, refer to 10.3.1m. An example of the Windows 3.X Program Manager display is illustrated in figure 123.

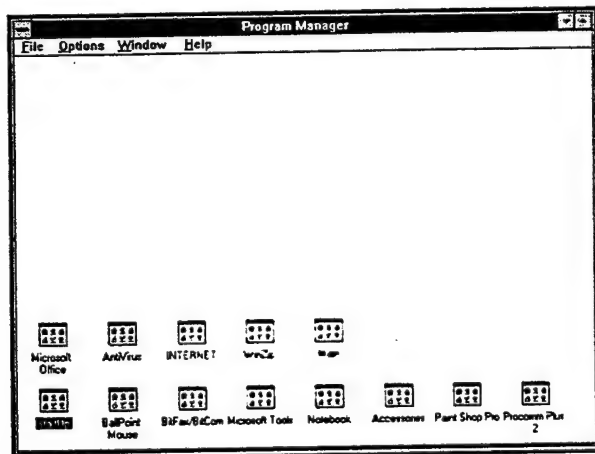


FIGURE 123. Program Manager

- g. Next, either select an existing window program group or create a new group. In this example, a new work group named Weather Applications is created. Pull down the File menu and select the New option from the menu. The New Product Object dialog will appear. Select the "Program Group" option and press "OK" as illustrated in figure 124.

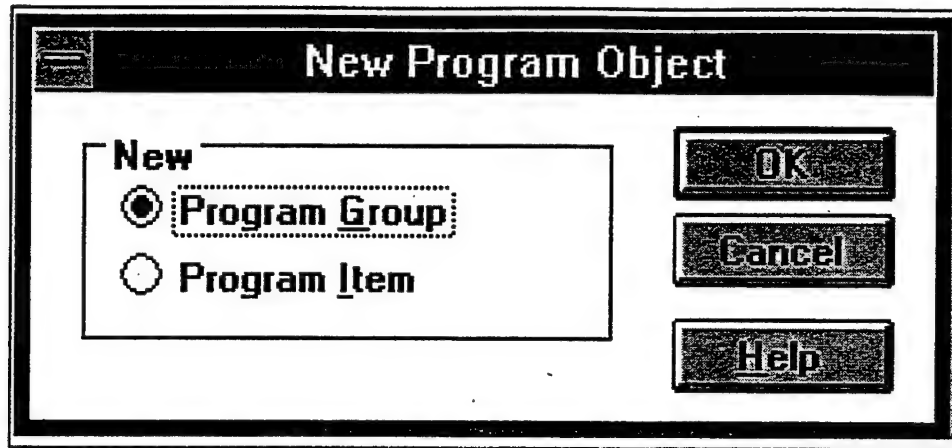


FIGURE 124. New Program Object - Program Group

- h. The Program Group Properties dialog will be displayed. Enter **Weather Applications** in the Description box as illustrated in figure 125 and press "Enter".

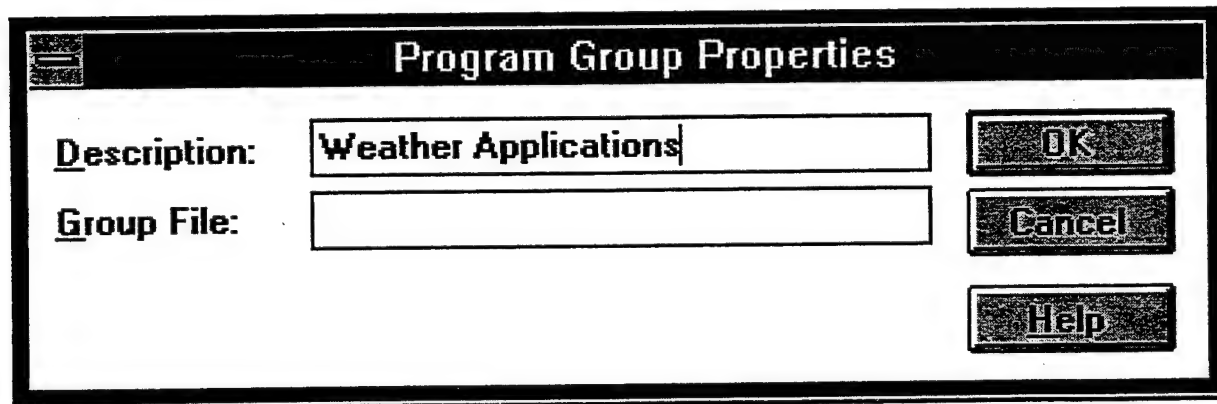


FIGURE 125. Program Group Properties

- i. A new program group with the name "Weather Applications" will appear on the window's Program Manager as illustrated in figure 126.

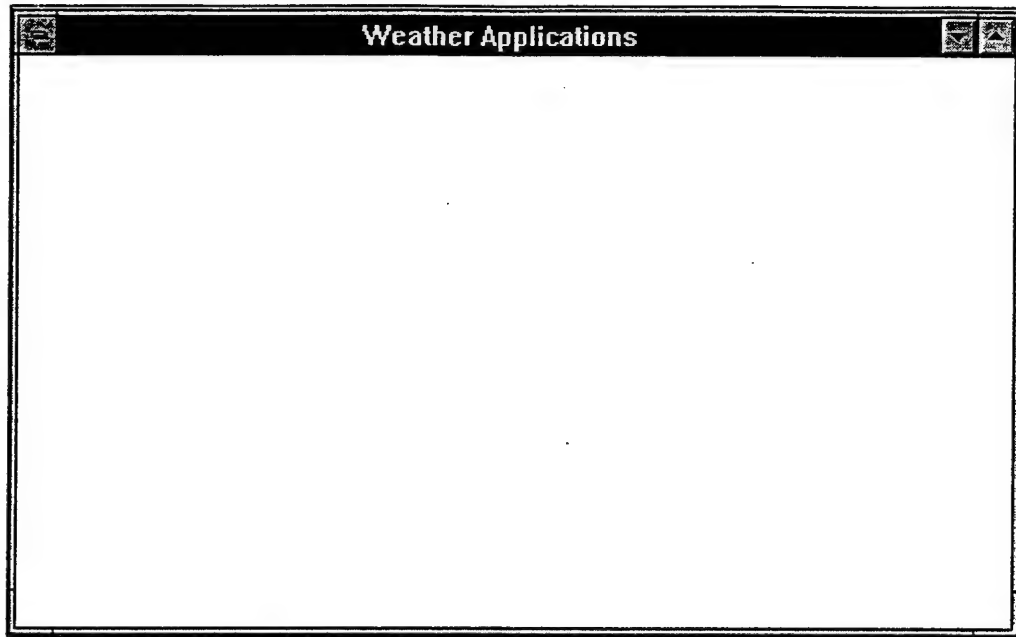


FIGURE 126. Program Manager - Weather Applications

- j. To install the AFDIS icon, pull down the File menu and select **New**. Select the Program Item button and press "Enter". Refer to figure 127.

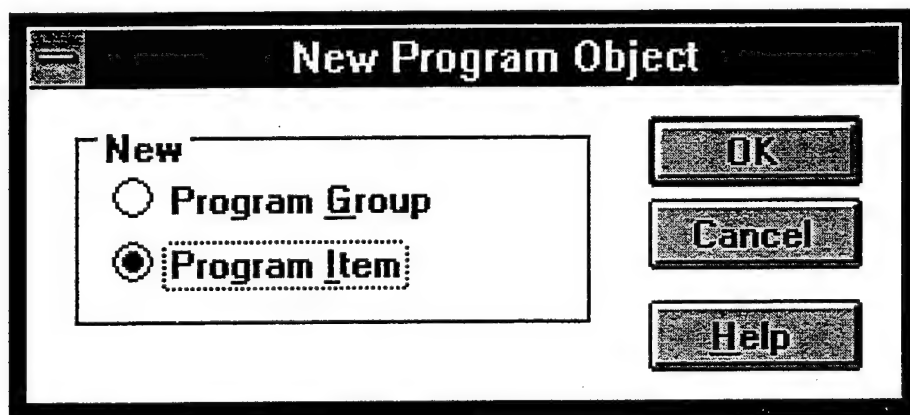


FIGURE 127. New Program Object - AFDIS Icon

- k. Next, the Program Item Properties dialog will be displayed. Type **AFDIS** in the Description entry and press "Tab". Type **C:\AFDIS\AFDIS.EXE** or appropriate full path name of the new AFDIS executable, then press "Tab". Type **C:\AFDIS** or the appropriate AFDIS directory in the Working Directory entry and press "Enter". Refer to figure 128.

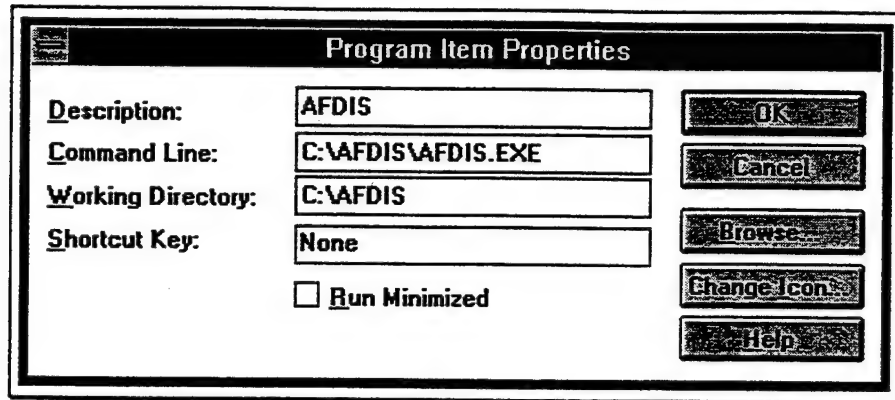


FIGURE 128. AFDIS Program Item Properties

1. The Weather Applications work group will now display AFDIS as an icon as illustrated in figure 129. This completes the installation of AFDIS.

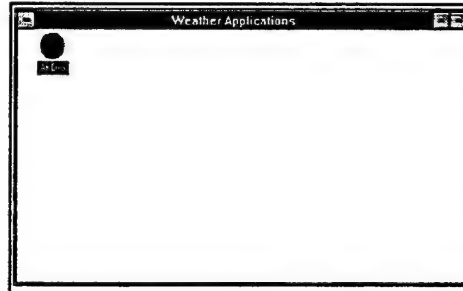


FIGURE 129. AFDIS Weather Applications

- m. The following steps described installation of the AFDIS icon in a Windows 95 group. An example of the Windows 95 desktop and taskbar are illustrated in figure 130.

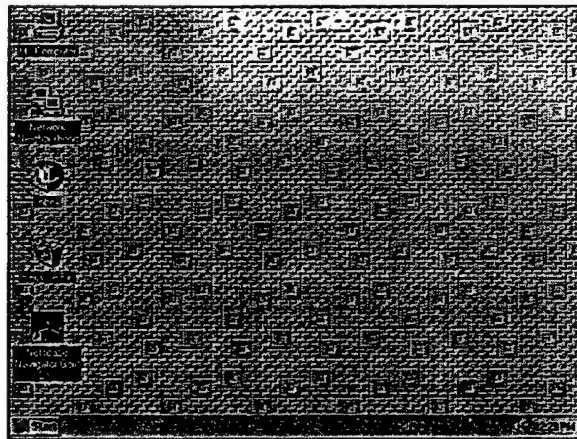


FIGURE 130. Windows 95 Desktop and Taskbar Example

- n. Place the cursor over the Start button and click on the right mouse button. A shortcut menu will appear. Select the **Open** submenu. An example of the Windows 95 shortcut menu is shown in figure 131.

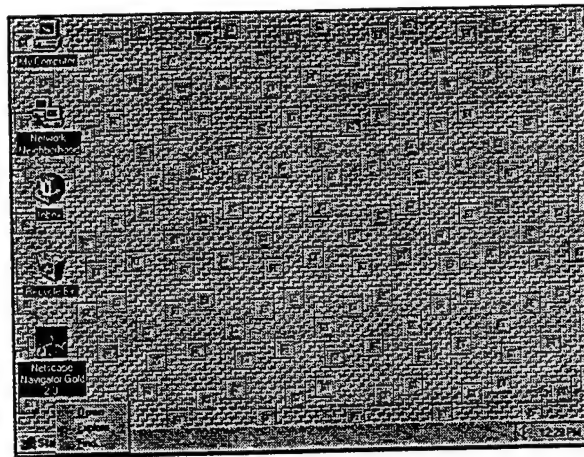


FIGURE 131. Windows 95 Shortcut Menu

- o. The Windows 95 Start menu will be displayed. Double click on the Programs icon button. An example of the Windows 95 Start menu is illustrated in figure 132.

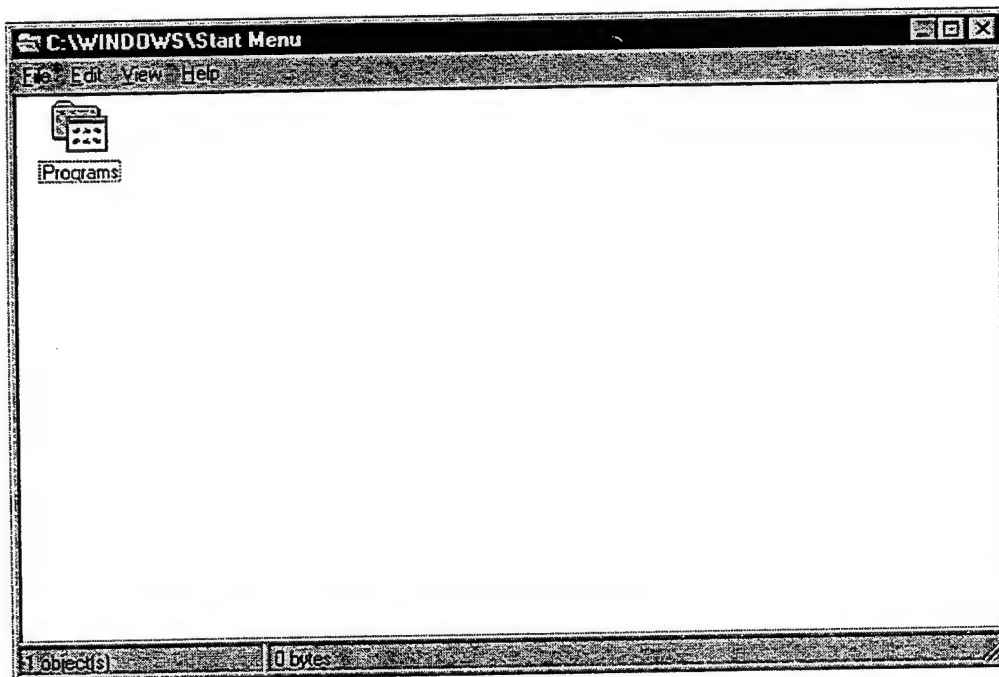


FIGURE 132. Windows 95 Start Menu

- p. The Programs window will be displayed. Pull down the File menu and select the **New** option. Select **Folder** from the New option to create a new Windows 95 Program Folder as shown in figure 133.

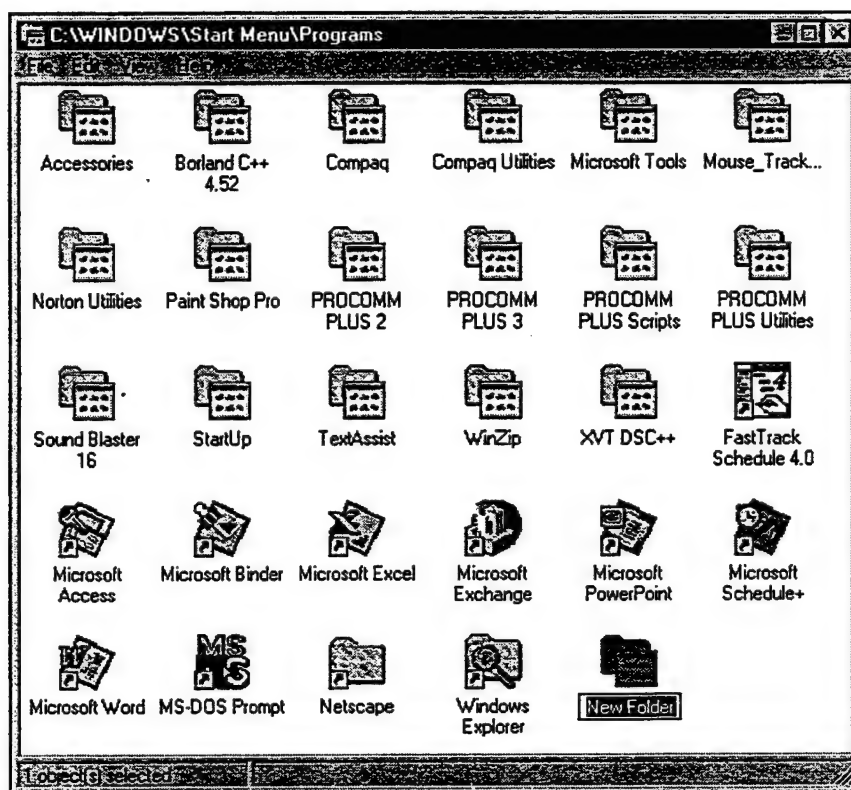


FIGURE 133. Windows 95 Program Window

- q. A new Programs Folder has been created. Type **Weather Applications** at the cursor and press Enter. Figure 134 shows an example of naming the new Programs Folder.

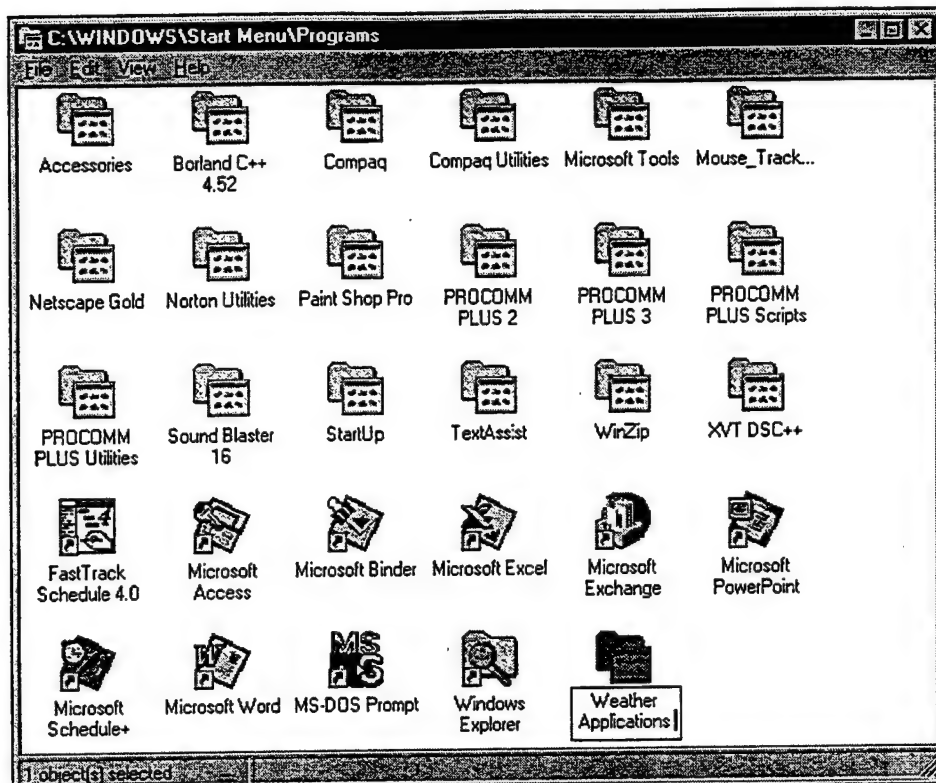


FIGURE 134. Naming the New Programs Folder

- r. Double click on the new Weather Applications icon to open the Weather Applications window. See figure 135.

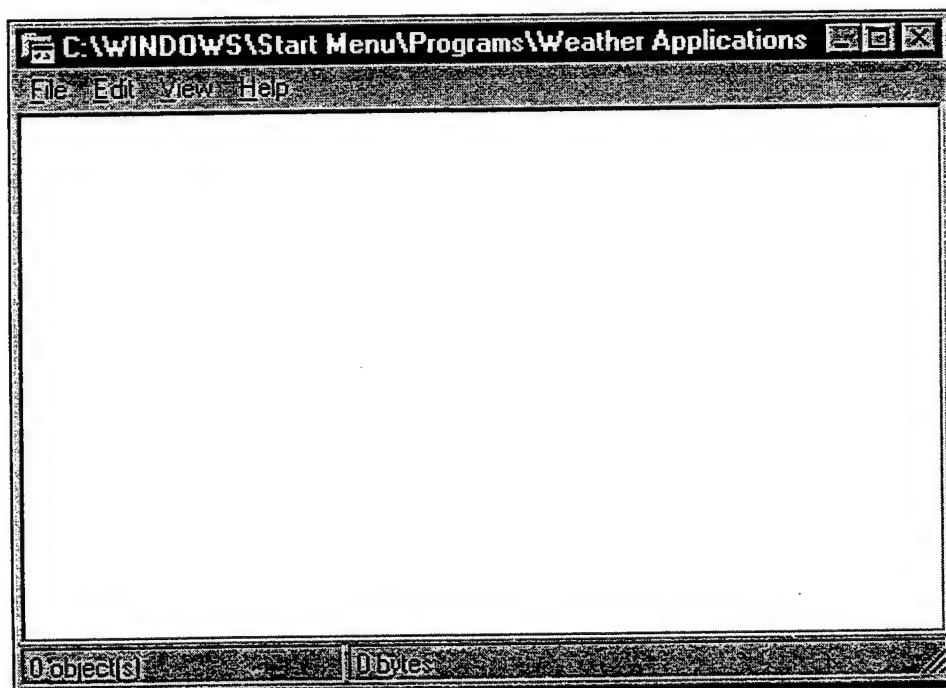


FIGURE 135. New Weather Applications Window

- s. Select File from the new Weather Applications window; a new submenu will appear. Select the Shortcut option. Figure 136 shows an example of creating a new Windows 95 Shortcut.

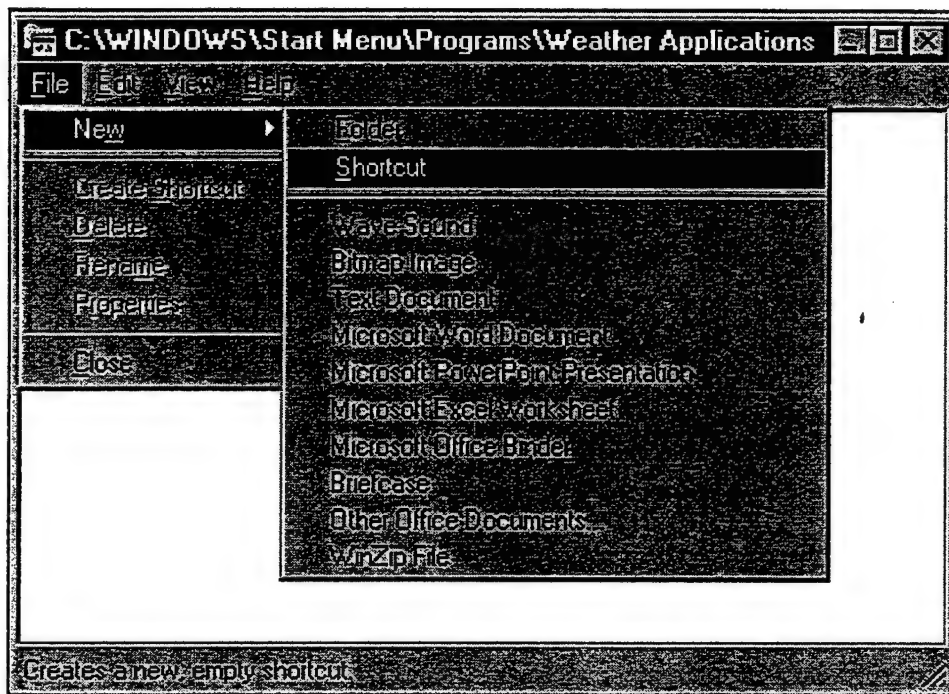


FIGURE 136. Creating a New Shortcut

- t. From the Create Shortcut window command line, enter the full path name of the AFDIS executable and click on Next. Figure 137 shows an example of the Create Shortcut window using C:\AFDIS\AFDIS.EXE as the path name.

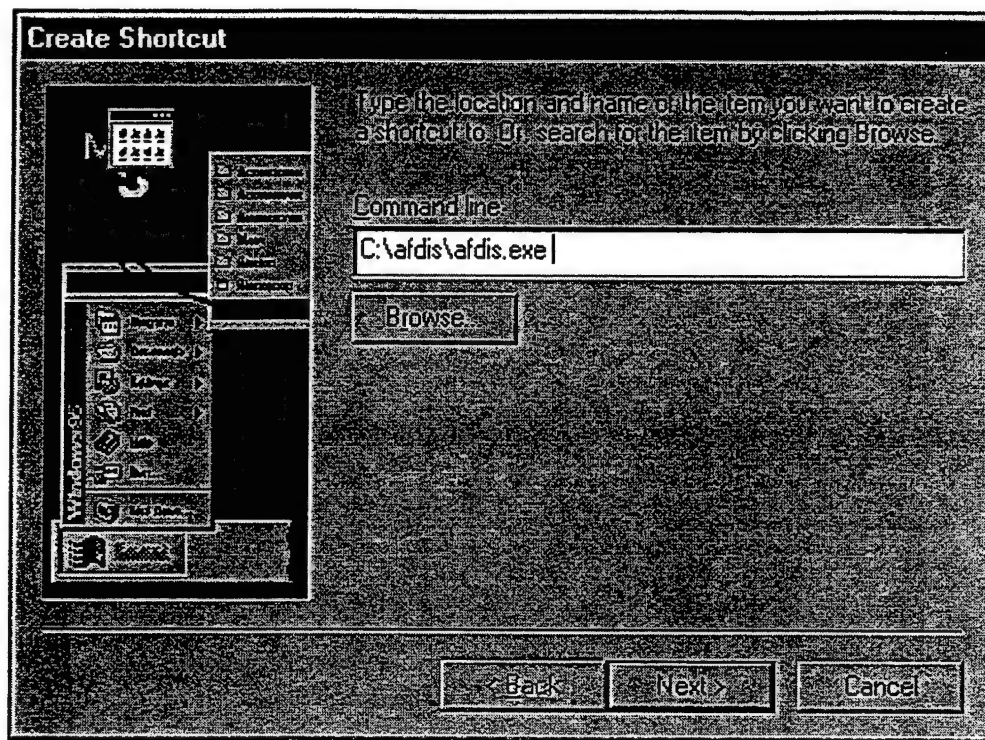


FIGURE 137. Create Shortcut Window Command Line

- s. The Weather Applications window now displays AFDIS as an icon as illustrated in figure 138. This completes installation of AFDIS on a Windows 95 platform.

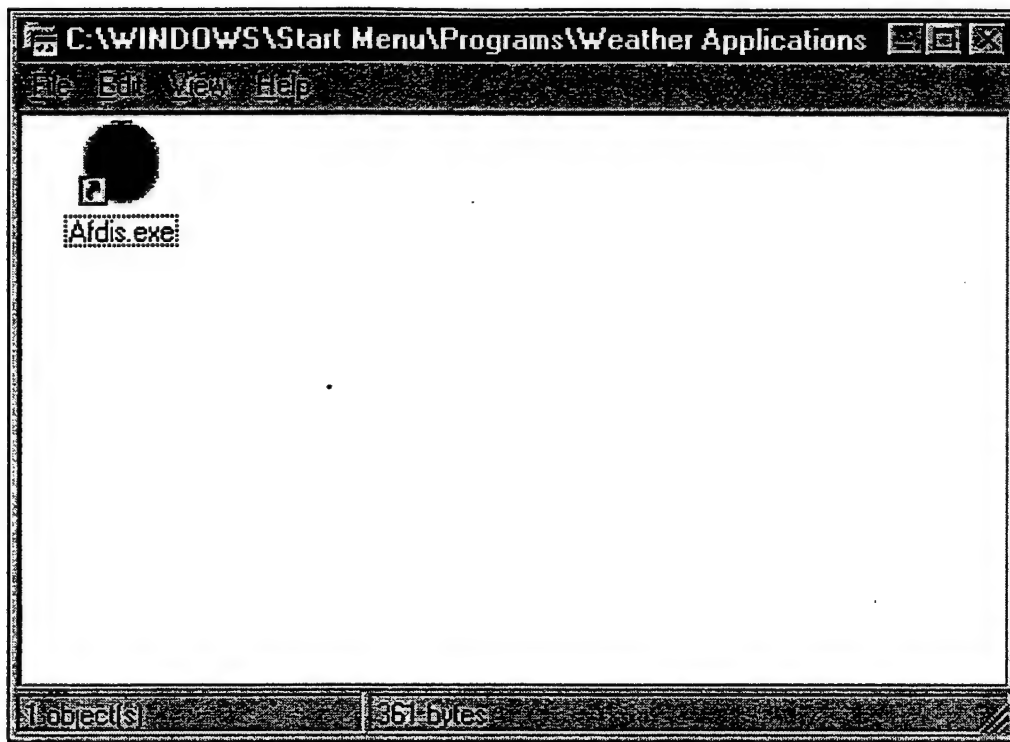


FIGURE 138. New AFDIS Icon

10.4 Modem settings. The following settings are recommended for use with the corresponding communication service.

<u>COMMUNICATION SERVICE</u>	<u>MODEM SETTINGS</u>
DSN/DDN/Commercial	Parity = none, Stop Bit = 1, Data Bits = 8, Baud Rate = 19200, 9600, 1200 or 300
Commercial PSDN	PARITY = even, Stop Bit = 1, Data Bits = 7, Baud Rate = 9600, 2400, 1200, or 300

The user may have to configure the modem for compatibility with the various communication services. For example, there are error control and data compression standards, e.g., MNP-5, V.42, V.42bis, which may have to be activated or deactivated to connect to a communication service. Contact the AFDIS technical support staff to resolve modem compatibility problems.

10.5 Common installation and execution problems. Following are the most common AFDIS problems and the recommended solution:

Problem 1 AFDIS causes a protection fault when the user attempts to submit a request to the AFDIS Server.

Solution: In the MS-DOS environment, AFDIS cannot access the variables SET AFDIS=C:\AFDIS, SET AFDISCOM=C:\PCPLUS (if using PROCOMM PLUS for DOS v2.01), SET AFDISCOM211 = C:\PROWIN2 (if using PROCOMM PLUS for Windows v2.11), or SET AFDISCOM30=C:\PROWIN3\PROGRAMS (if using PROCOMM PLUS for Windows v3.0) located in the c:\autoexec.bat file. The user probably did not reboot the machine after installation of AFDIS; if not, reboot. If that doesn't work, verify that the environmental variables are visible from the MS-DOS prompt by typing SET and pressing the Enter key at the MS-DOS command prompt. If visible, verify that the PROCOMM PLUS directory is correct as stated by the corresponding AFDISCOM, AFDISCOM211, or AFDISCOM30 environmental variable (change the environmental variable as needed). If the problem still exists, delete the above lines from the autoexec.bat and retype them using all capitalized letters with no trailing spaces. Each time changes are made to the AUTOEXEC.BAT file, the user must reboot the machine for the changes to take effect.

Problem 2 The user's PC locks up every time AFDIS starts up PROCOMM PLUS.

Solution: The user has not set up PROCOMM PLUS correctly. More than likely, the user has COM Port 1 specified as the modem port which is usually reserved for the mouse. In most cases, the user should set the modem port to COM Port 2 or COM Port 3. Consult the PROCOMM PLUS manual for the correct procedures for changing the COM Port.

Problem 3 AFDIS starts up PROCOMM PLUS, but PROCOMM PLUS re-dials endlessly.

Solution: PROCOMM PLUS's default modem COM Port may be incorrect (see solution to problem 2). The phone line may not be connected correctly to the PC or to the electrical outlet. Verify that a dial tone is received just prior to auto-dialing. This can also be checked by executing PROCOMM PLUS separately from AFDIS and by manually dialing.

Problem 4 User never makes connection to the AFDIS Server.

Solution: User may be entering an invalid phone number in the AFDIS Communications Configuration window. Current valid phone numbers for DSN access are 271-9880 and 271-9881. The AFDIS Sever may also be accessed by commercial telephone numbers (402) 294-9880 and (402) 294-9881.

The user may not be specifying the correct prefix to obtain an external line or may not have specified a pause (,) between the prefix and the actual phone number. Also, the user may not have specified the correct AFDIS Communications Configuration settings. The correct settings are as follows:

DSN Access

Baud Rate: 19200, 9600, 2400, 1200, or 300

Stop Bit : 1

Data Bits: 8

Parity : NONE

Problem 5 PROCOMM PLUS indicates it is trying to transmit the user's request packet, but it never does.

Solution: This usually indicates that the Parity, Stop Bit, or Data Bits are set incorrectly. The correct setting can be found in 10.4.

Problem 6 The User submits a request and PROCOMM PLUS transmits the requested files, but the user cannot find the files using the AFDIS File Utility or one of the Display windows.

Solution: The user is probably running AFDIS from an icon and the working directory specified for the icon is incorrect. Consult the appropriate MS Windows reference manual for instructions on changing the working directory.

Problem 7 User attempts to view a Raster Display and receives a "Path not found -SPS.EXE" message.

Solution: The user has not properly installed Paint Shop Pro (PSP) or the PSP directory has not been added to the Path statement in the AUTOEXEC.BAT file.

Problem 8 AFGWC is unavailable.

Solution: Surface observations for a specified hour are not available until 20 minutes past that hour. It is also suggested that the AGE value be set from 0 through 2 to increase the probability of retrieving OBs.

Problem 9 After AFDIS starts PROCOMM PLUS, a message is returned stating that PROCOMM PLUS is unable to compile the script file.

Solution: The user may be using an incorrect version of PROCOMM PLUS. Reinstall the correct version of PROCOMM PLUS.

Problem 10 The user accidentally deletes a file needed by AFDIS.

Solution: Reinstall AFDIS.

10.6 Paint Shop Pro (V3.0) Installation. Paint Shop Pro (V3.0) consists of three installation disks. Perform the following steps to install Paint Shop Pro (PSP).

- a. Insert Paint Shop Pro installation disk 1 into the appropriate floppy drive.
- b. Select File/Run from the main menu if using Windows 3.1 or by selecting Start, then Run if using Windows 95. When the Run dialog box appears, enter:

x:\install

where x is the appropriate drive letter

- C. A prompt for the destination directory will appear. Select the default option C:\PSP or select a directory. See figure 139. After selecting the directory, click on the OK button to proceed.

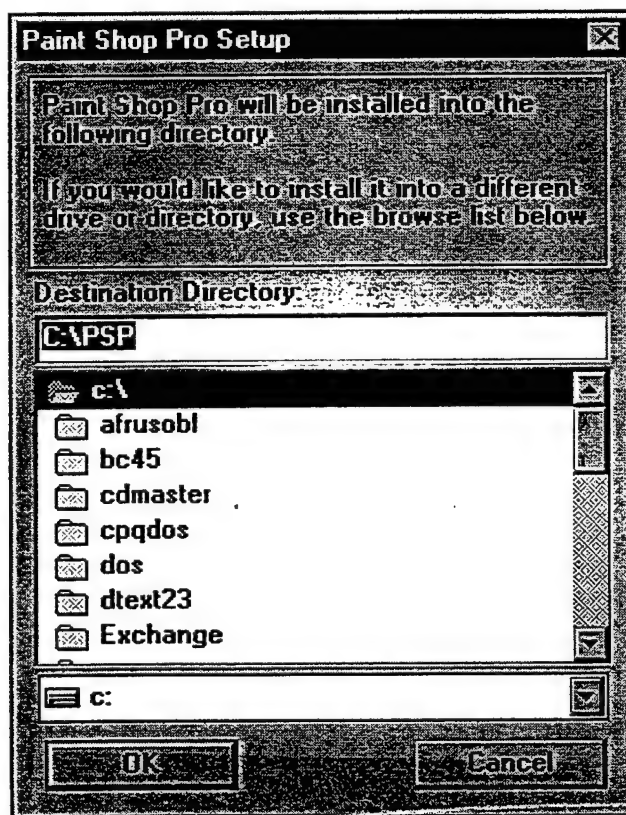


FIGURE 139. Paint Sop Pro Installation - Directory Selection

- d. The Installation Options box will appear. See figure 140. Select the Paint Shop Pro Application box and click OK to continue. (Select Image Collection for a display of sample images. This directory consumes about 2.3 MB of disk space).

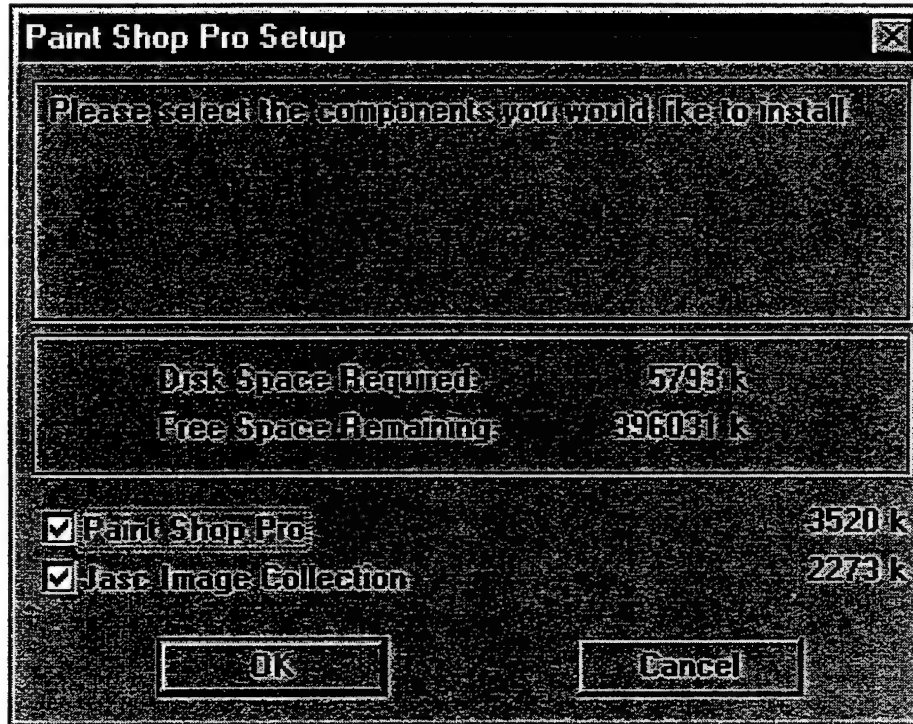


FIGURE 140. Paint Shop Pro Installation - Options

- e. The PSP installation program will continue, prompting for additional disks as needed.
- f. A prompt will ask if Paint Shop Pro should be added to the Program Manager. See figure 141. Select Yes. A group box and icons for starting Paint Shop Pro will be added to Windows.

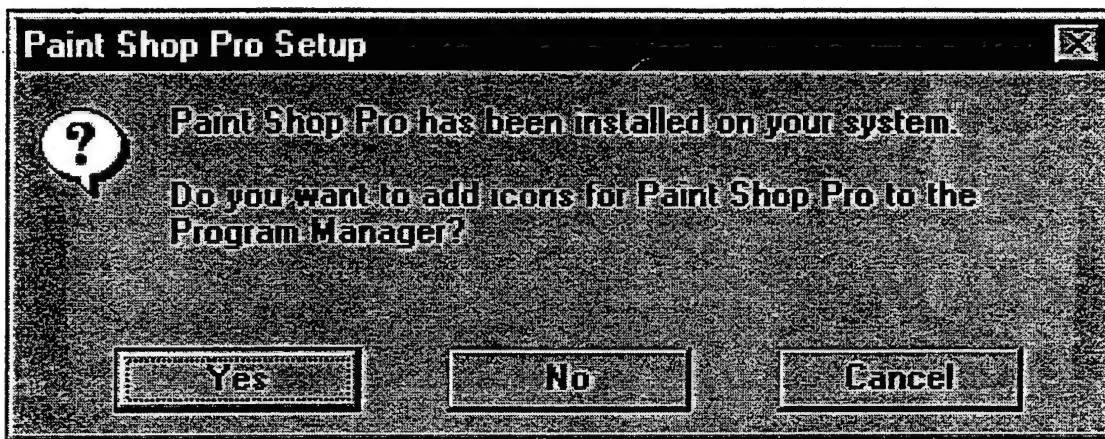


FIGURE 141. Paint Shop Pro - Program Manager Selection

- g. When prompted for the Program Manager group name, select OK to choose the default selection "Paint Shop Pro" or type an alternate entry. See figure 142. Click the OK button to conclude installation of Paint Shop Pro.

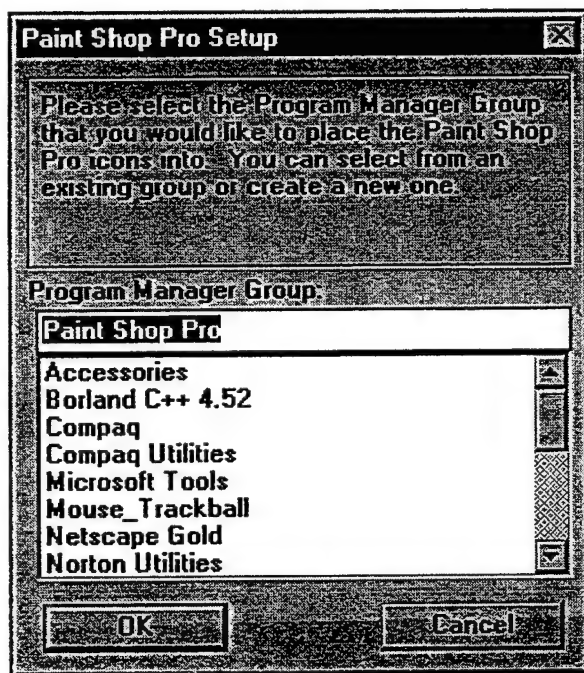


FIGURE 142. Paint Shop Pro - Program Group Name

- h. After exiting the installation program, add the directory where PSP was just installed to the 'path' line of the AUTOEXEC.BAT file (usually located in the root directory of the C drive). This path must be separated from other paths by a semicolon. For example:

before: path=C:\DOS;C:\WINDOWS

after: path=C:\DOS;C:\WINDOWS;C:\PSP

- i. Run PSP by clicking the Paint Shop Pro icon from the group box in windows or from the display menu inside the AFDIS program.

Note: PSP is designed to work with a 256 color video display. If PSP is running with a 16 color video display, a prompt will appear. Selecting Yes will cause the message box to appear each time PSP is started. Selecting No will stop future displays of the box.

APPENDIX B

AFDIS EXAMPLE SESSION

20.1 Purpose. This appendix contains a step-by-step example of an AFDIS session. The user will configure the communication settings, create a product request, submit the request, and display the retrieved products.

20.2 Start up. Prior to invoking an AFDIS session, AFDIS and PROCOMM PLUS must be installed on the user computer. Refer to appendix A for installation instructions.

If executing in the MS Windows environment, select the AFDIS icon. The AFDIS - Program Options window will appear as shown in figure 143.

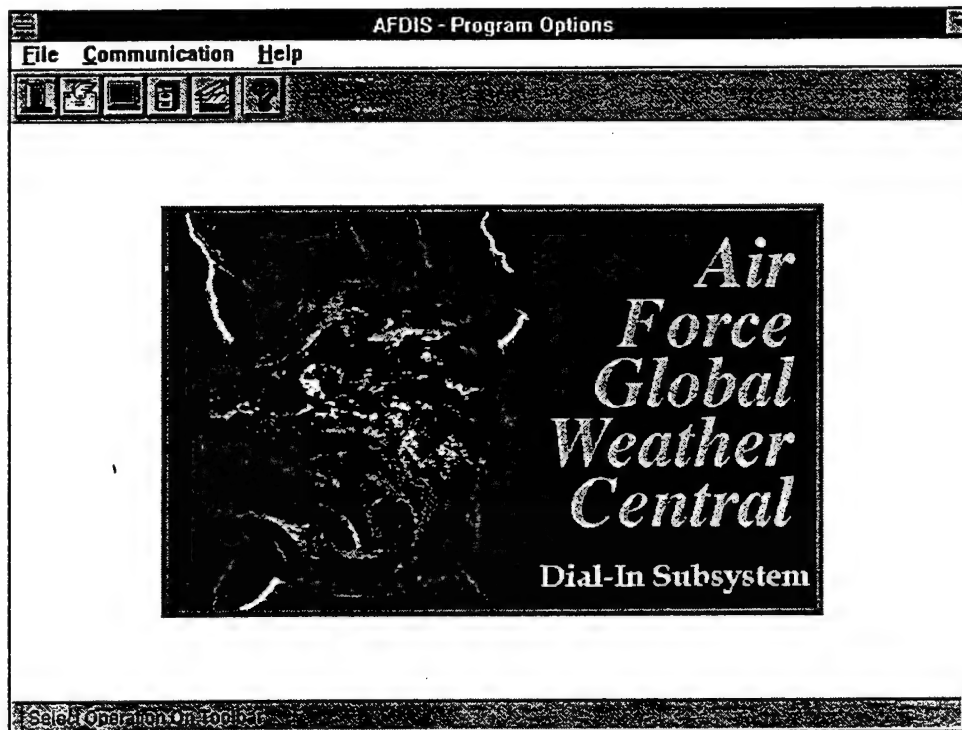


FIGURE 143. AFDIS - Program Options Window

20.3 Setting Communications Configuration. This section describes how to set and implement the Communications Configuration, e.g., modem settings, phone number, etc.

From the AFDIS - Program Options window Main menu select the Communications/Configuration menu option. Options can be selected by using either a mouse or the PC keyboard. To select the menu items using a mouse, click on the Communication menu item. Click on the Configuration submenu option to open the Communications Configuration window. For keyboard selections, menu items are associated with an underscored letter. These are called "hot keys". By pressing and holding the "Alt" key and the menu item's hot key, the window menubar will gain "focus" making keyboard entries applicable to the menu. To Select Communications Configuration, press "Alt+C" to display the submenu. Press the "C" key to select the Configuration submenu item. This will open the Communications Configuration window. Refer to figure 144.

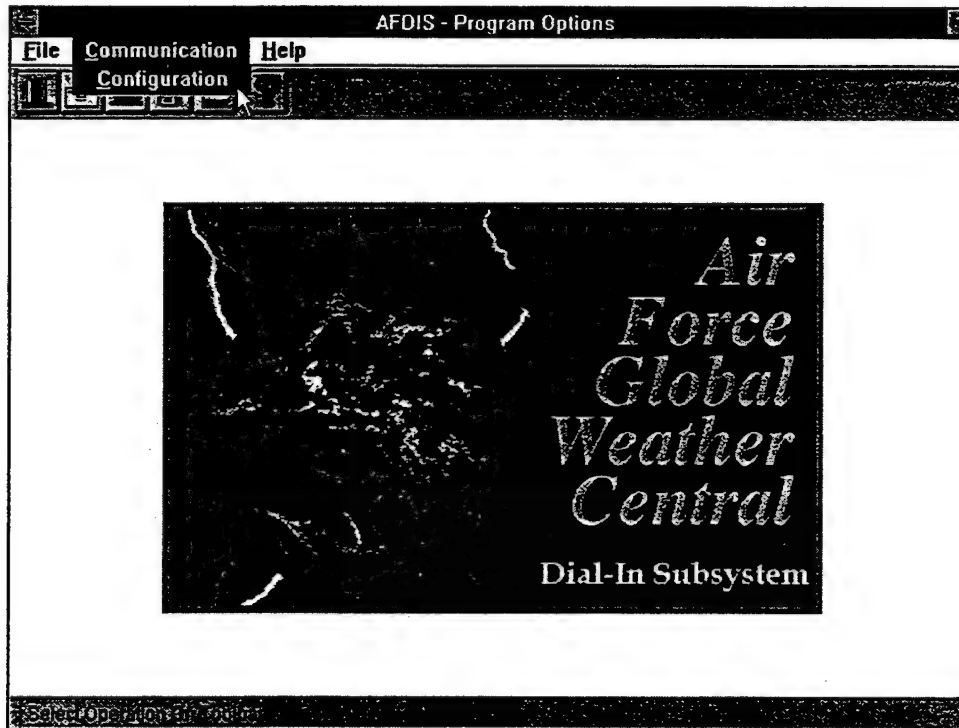


FIGURE 144. Selecting Communications Configuration Using a Menu

A faster way to open the Communications Configuration window is to use the toolbar. To use the toolbar, position the mouse cursor over the toolbar icon with the picture of the modem and telephone poles (fifth button from the left) and click on it. Note that when the cursor moves over the toolbar, the status bar text at the bottom of the window changes to reflect the function of the toolbar button. See figure 145.

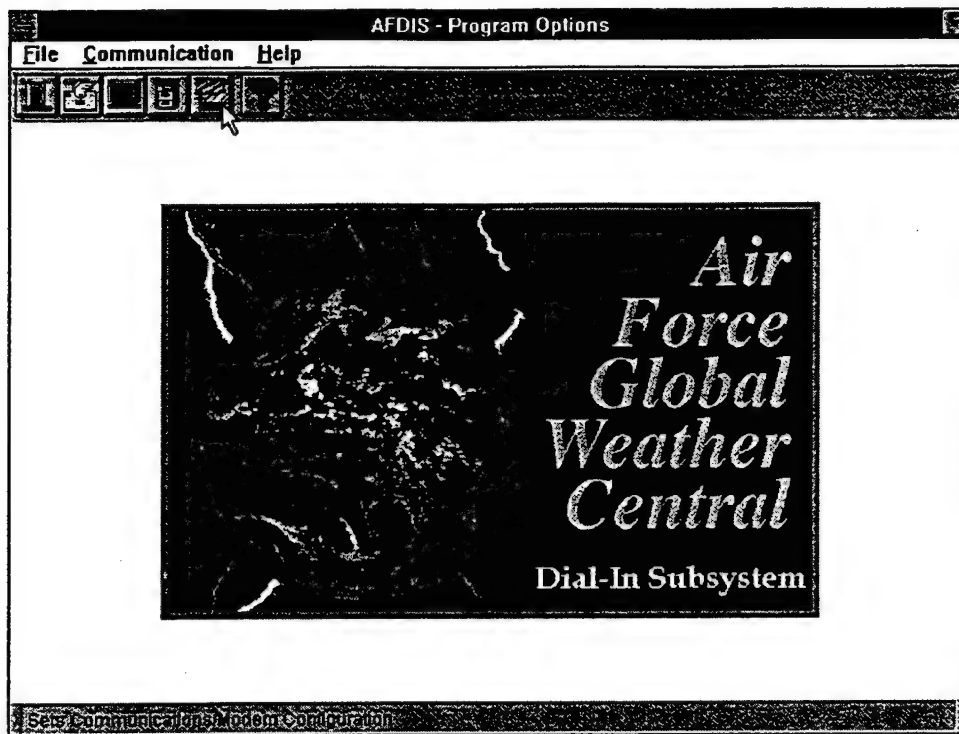


FIGURE 145. Selecting Communications Configuration Using the Toolbar

When the Communications Configuration window is displayed, either the default settings or the implemented settings will be displayed. See figure 146.

The screenshot shows a window titled "(NEW) Communications Configuration". It has a menu bar with "File", "Password", and "Help". Below the menu bar is a toolbar with icons for file operations and help. The window is divided into two main sections: "Communication Service Settings" and "Modem Settings".

Communication Service Settings:

- Service: DSN/Commercial Telephone
- Calling Region: Conus
- Communication Package: Procomm Plus for DOS v2.01

Modem Settings:

- Phone Number: (empty text box)
- Manual Pre-Dial: ☐ On
- Baud Rate: 2400
- Parity: ☐ ODD ☐ EVEN ☒ NONE
- Stop Bit: ☒ 1 ☐ 2
- Data Bits: ☐ 7 ☒ 8

At the bottom of the window, there is a status bar that says "Select Operation On Toolbar".

FIGURE 146. Communications Configuration Window Default Settings

After opening the Communications Configuration window, changes are made by entering or selecting the values in the various selection boxes. Open the Service list box by clicking on the down arrow on the right side of the box. A list of communication services becomes available. In this example "DSN/Commercial" was selected. See figure 147. The selected value will appear in the list box and the box will close. To use GSI, select "Commercial Packet Switch Data Network".

The screenshot shows a window titled "[NEW] - Communications Configuration". It has a menu bar with "File", "Password", and "Help". Below the menu bar is a toolbar with various icons. The main area is divided into two sections: "Communication Service Settings" and "Modem Settings".

Communication Service Settings:

- Service:** A dropdown menu is open, showing four options: "DSN/Commercial Telephone", "DSN/Commercial Telephone", "DDN - Modem Connection", and "Commercial Packet Switch Data Network (PSDN)".
- Calling Region:** A label with no visible dropdown menu.
- Communication Package:** A label with no visible dropdown menu.

Modem Settings:

- Phone Number:** A text input field.
- Manual Pre-Dial:** A checkbox labeled "On".
- Baud Rate:** A dropdown menu showing "2400".
- Parity:** Three checkboxes: "ODD", "EVEN", and "NONE" (which is checked).
- Stop Bit:** Two checkboxes: "1" (which is checked) and "2".
- Data Bits:** Two checkboxes: "7" and "8" (which is checked).

At the bottom of the window, there is a status bar that says "Select Operation: [icon]".

FIGURE 147. Communications Configuration - Service Selection

Next, select the Calling Region. Open the Calling Region and select the "CONUS" option for the Continental US. The drop down box will close and CONUS will be selected. See figure 148.

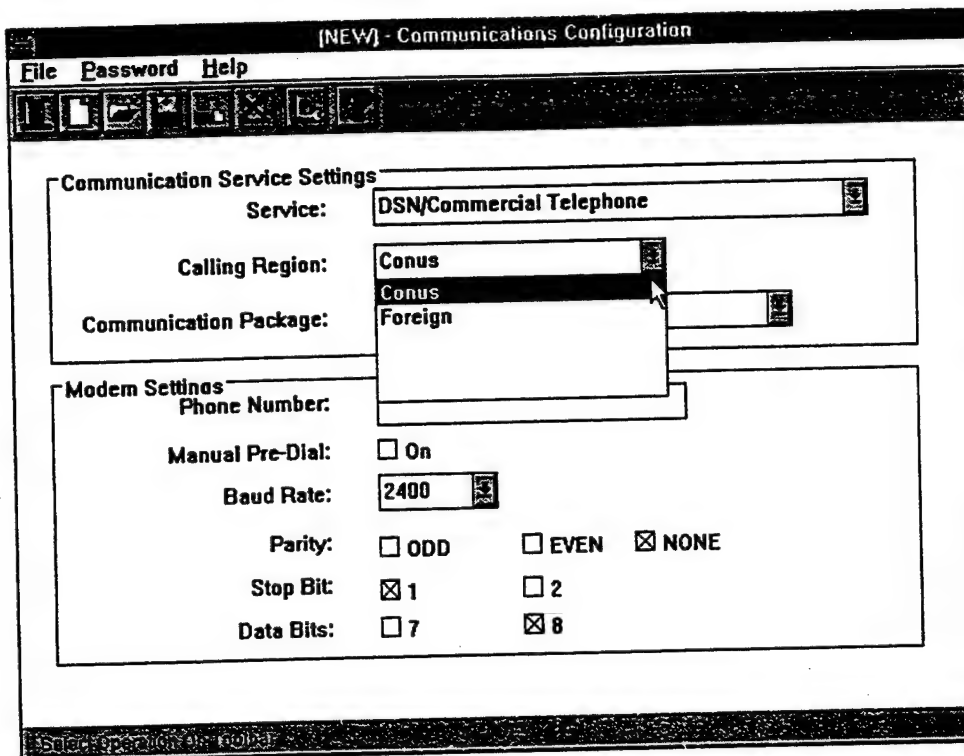


FIGURE 148. Communications Configuration - Calling Region Selection

Open the Communication Package list box. The three supported AFDIS PROCOMM PLUS versions will be displayed. To determine which version to use, either consult the PROCOMM PLUS documentation, or see the title window of the PROCOMM PLUS MS-DOS version, or query the Help About menu option in the PROCOMM PLUS MS Windows versions. Select the appropriate Communication Package. The window will close and the selected package name will remain in the box. See figure 149.

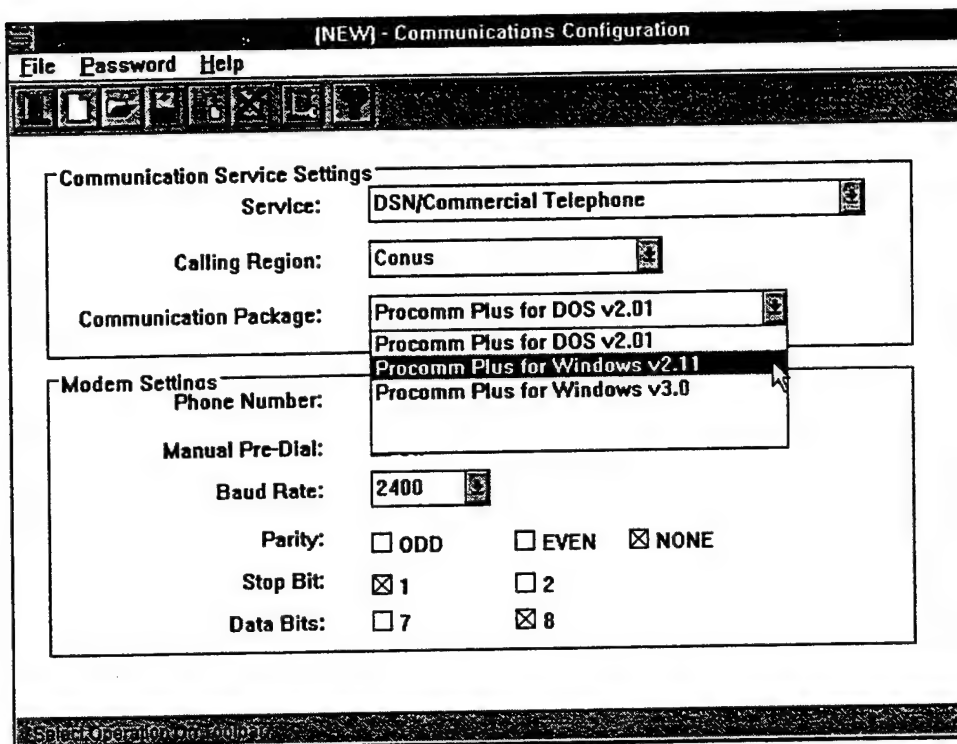


FIGURE 149. Communications Configuration - Communication Package Selection

To set the modem settings, click in the Phone Number box and enter the AFDIS phone number. A comma in the phone number allows a three second delay. Separating the numbers with a dash makes it easier to read, e.g., 271-9880.

The Manual Pre-Dial option is used when operator intervention is needed to connect to AFDIS. Refer to the Help Text toolbar button for further Manual Pre-Dial information.

The Baud Rate is the speed at which the PC communicates with the modem. To determine the Baud Rate consult the modem user's manual. To set the Baud Rate, open the Baud Rate list box and display the selections. Click on the appropriate setting and close the box. In the example shown in figure 150, 9600 is selected.

To set the Parity, Stop Bits, and Data Bits select each item separately and enter the following: for Parity, EVEN; for Stop Bits, 1; for Data Bits, 8. Refer to figure 150.

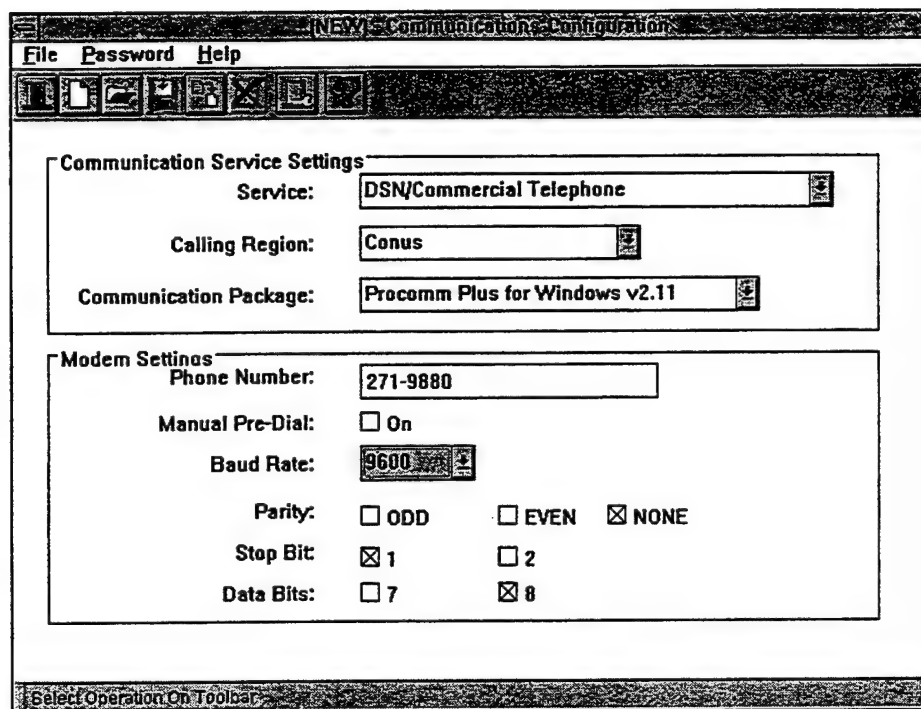


FIGURE 150. Communications Configuration Window with Example Selections Set

Contact the AFGWC GDO or AFGWC/DOO (phone numbers are listed under the Help/About menu option) to get the Alternative Service Provide User Name and Password and the AFDIS Server Password.

Use the Password menu to set the Commercial Service User Name, Commercial Service Password, as well as the AFDIS Server Password. Select the Password menu option, then select the Service/Server menu. Alternatively, click on the toolbar Password button (door and key icon) to make the selection.

The Commercial Service User Name and Password is entered only if Packet Switching Data Network (PSDN) was selected in the Communications Configuration Window. Enter this password if needed.

An entry must be made in the AFDIS Server Password box. Enter the AFGWC-provided password. The typed characters will not be visible and a series of asterisks (***) will appear instead. To exit without implementing changes click the "Cancel" button. In figure 151 the "Cancel" button is selected. Select the "OK" button or press the "Enter" key to save the changes. The dialog box will disappear and the Commercial PSDN user name and password will be implemented. Note: The Commercial Packet Switch Network User Name and Password and the AFDIS Server Password are retained once entered.

Communication Service/Server Passwords

Alternative Communication Service Provider

Commercial Service User Name:

Commercial Service Password:

AFGWC Host Computer

AFDIS Server Password:

FIGURE 151. Communications Service/Server Passwords Dialog

To automatically save the above selections as a configuration file, select the File SaveAs menu option or the SaveAs toolbar button (fifth from the left). Enter a filename, e.g., CONFIG 1, in the SaveAs dialog box, then click "OK" to save the file and close the dialog box. See figure 152 for selecting File SaveAs via a menu selection or figure 153 for toolbar selection.

NEW Communications Configuration

File Password Help

New
Open
Save
Save As
Delete
Exit

Communication Service Settings

Service: DSN/Commercial Telephone

Calling Region: Conus

Communication Package: Procomm Plus for Windows v2.11

Modem Settings

Phone Number: 271-9880

Manual Pre-Dial: ☐ On

Baud Rate: 9600

Parity: ☐ ODD ☐ EVEN ☒ NONE

Stop Bit: ☒ 1 ☐ 2

Data Bits: ☐ 7 ☒ 8

Select Operation On toolbar

FIGURE 152. File SaveAs - Menu Selection

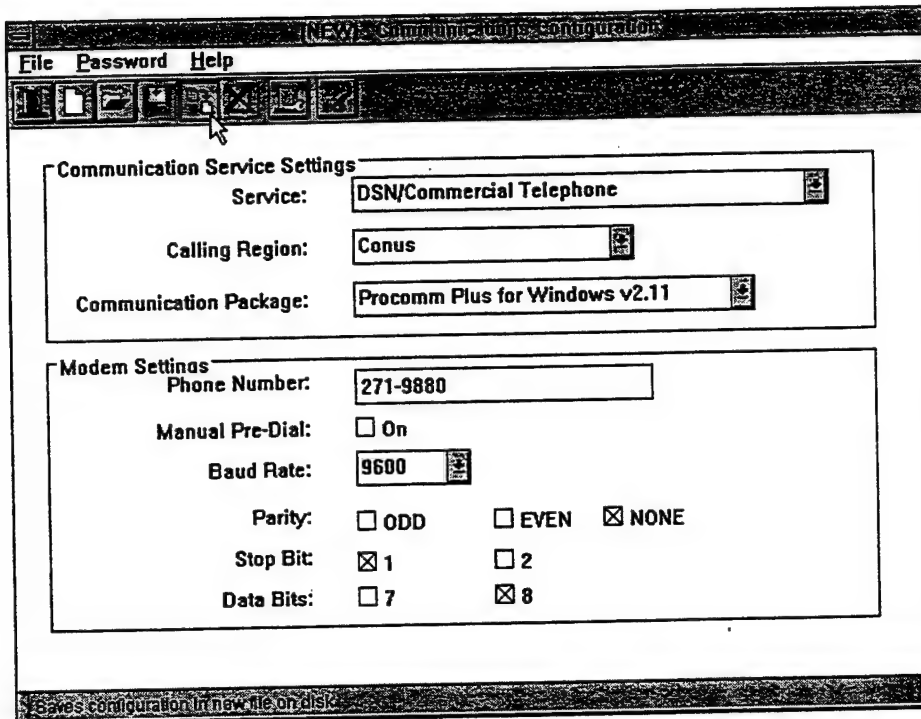


FIGURE 153. File SaveAs - Toolbar Selection

To exit this window, either pull down the File menu and select "Exit" or double click on the toolbar Exit button (leftmost button, door icon). The Communications Configuration window will disappear and the AFDIS - Program Options window will reappear.

20.4 Requesting chart products. This section describes chart product selection procedures. An Area Coverage and Product Request will be created. A chart product will be selected then added to the Product Request file. Once stored, the Product Request file will be sent to the AFDIS Server.

From the AFDIS - Program Options window select the File Retrieve menu option or the toolbar button (second from the left, icon shows a letter with wings). See figure 154 for the AFDIS - Program Options menu or figure 155 for the toolbar option.

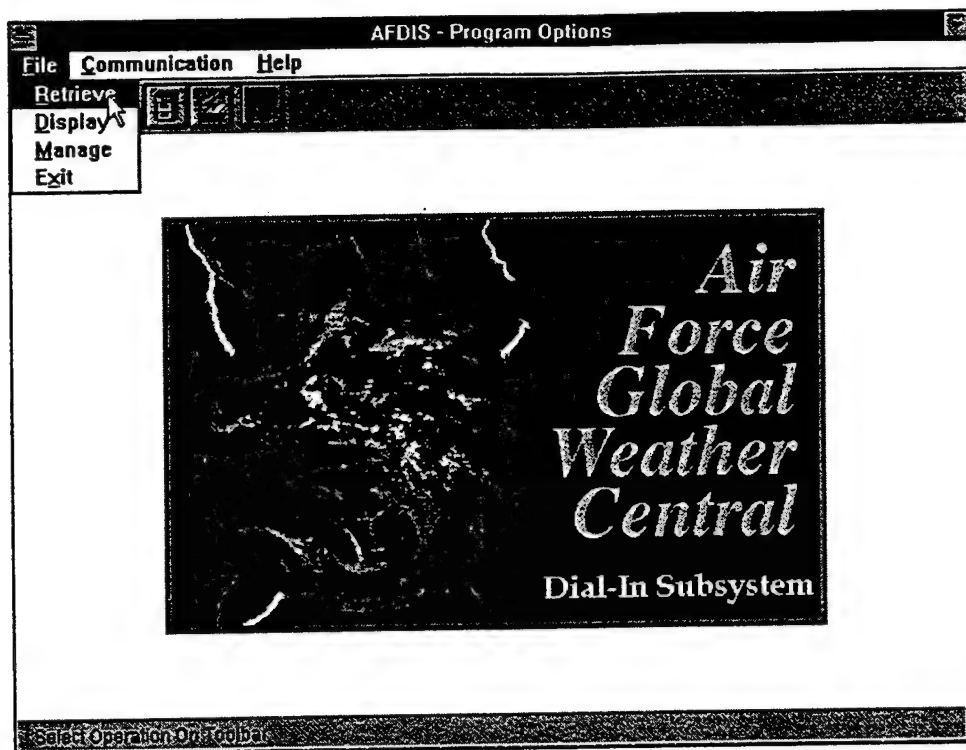


FIGURE 154. AFDIS - Program Options - Retrieve Menu Option

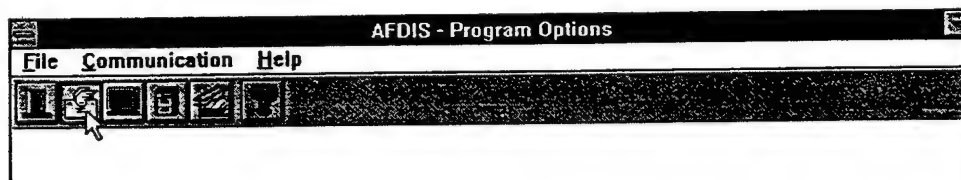


FIGURE 155. AFDIS - Program Options - Retrieve Toolbar Option

The Product Retrieval window is used for building and sending Request files to AFDIS. Select the File New Request menu option or select the toolbar button (third from the left, envelope icon). See figures 156 and 157.

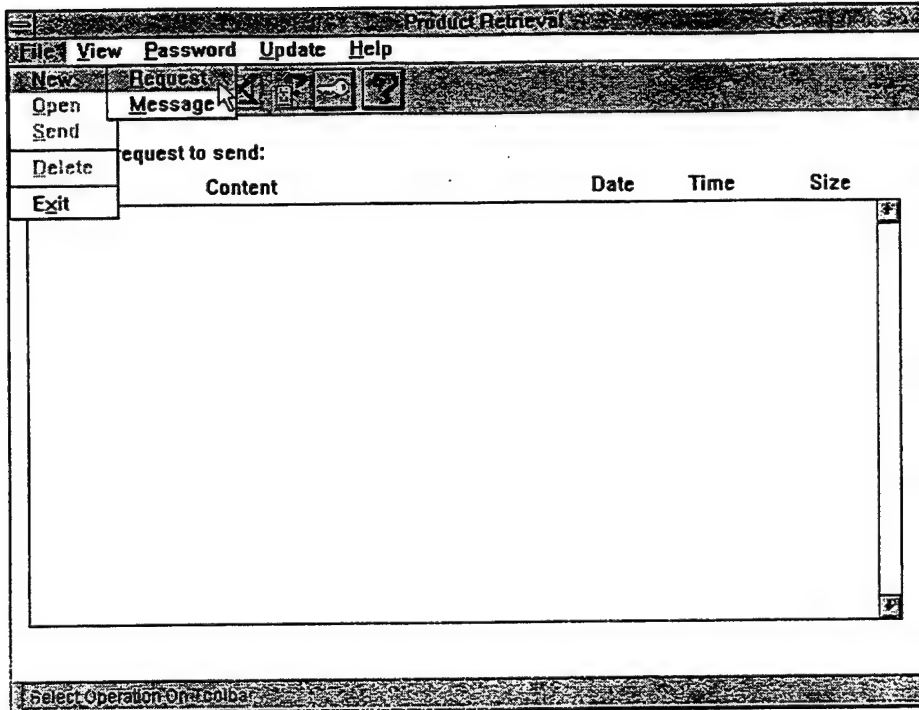


FIGURE 156. AFDIS - Product Retrieval Window - File New Request Menu Option

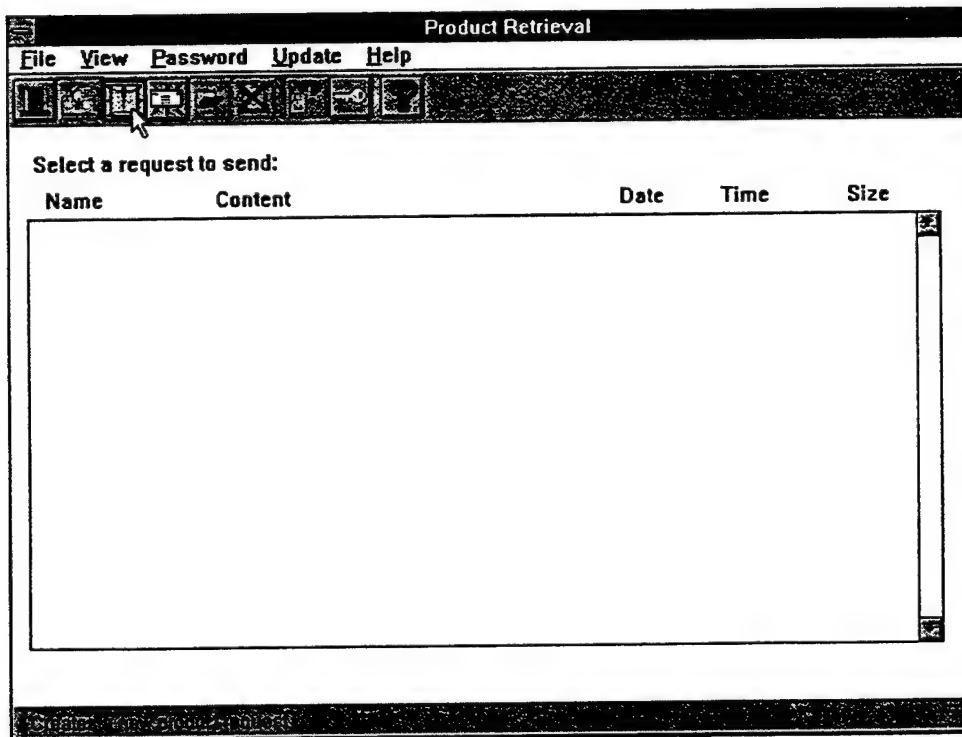


FIGURE 157. AFDIS - Product Retrieval Window - Toolbar Selection

for Building a New Request File

The [New] - Product Selection window is now open. To select a raster (picture) product, select either the Products/Picture Data list option or the toolbar button (seventh from the left, camera on tripod icon). See figures 158 and 159.

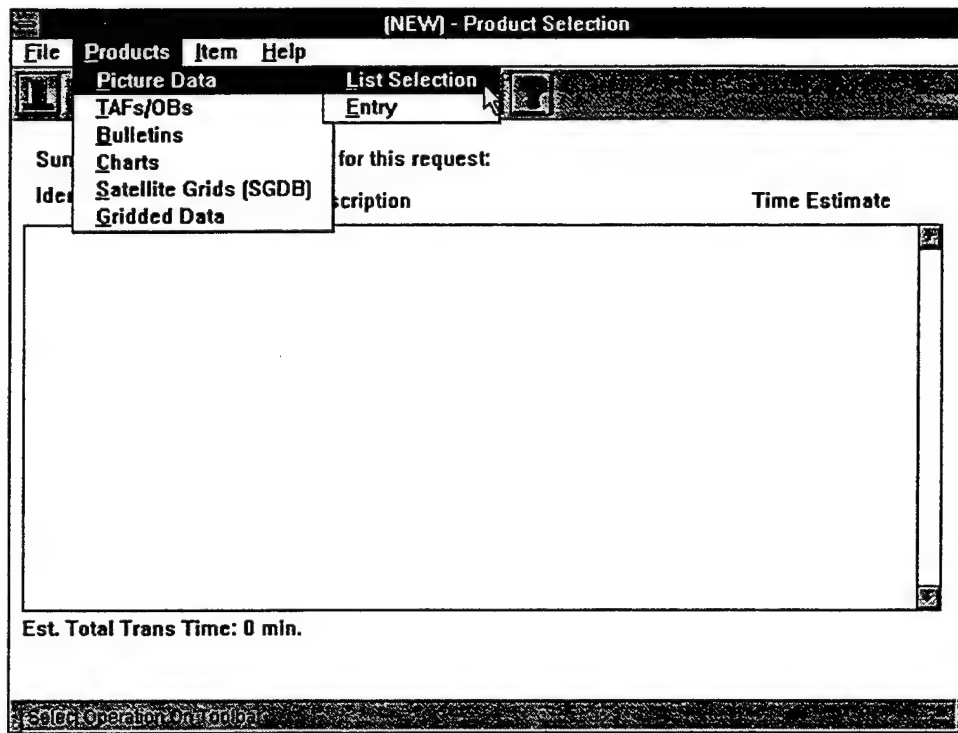


FIGURE 158. [New] - Product Selection Menu Option

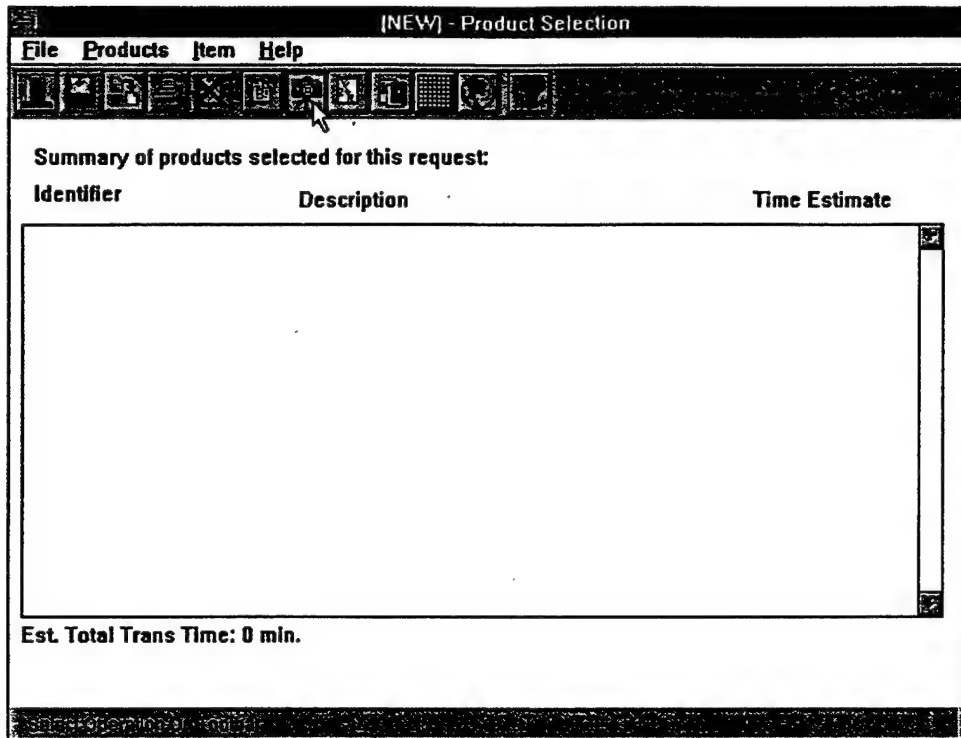


FIGURE 159. [New] - Product Selection Toolbar Option

The Scanned (Picture) Products Selection window displays the listing of picture products available for retrieval. Select an item on the list of Available Picture Products by clicking on it. The estimated data transmission time for the item will appear at the bottom of the window. Selecting the "OK" button will move the selected product(s) into the request being built. Selecting "Cancel" will exit the window without saving any selected data into the request. See figure 160.

Scanned (Picture) Products Selection		
Available Picture Products:		
Name	Content	
UPDATE	24-APR-1996	
WESTERN	REGION --- KOREAN THEATER	
	--- KOREAN THEATER - RMM DATA ---	
K03WND24	300MB WINDS	- 24HR
K03WND36	300MB WINDS	- 36HR
K04WND24	400MB WINDS	- 24HR
K04WND36	400MB WINDS	- 36HR
K07ICG36	ICING AT 10000 FEET	- 36HR
K07WND24	700MB WINDS	- 24HR
K07WND36	700MB WINDS	- 36HR
K0E024	E-0 W/THRESHOLDS	- 24HR
K0E036	E-0 W/THRESHOLDS	- 36HR
K0LLWS24	LOW-LEVEL WIND SHEAR	- 24HR
K0LLWS36	LOW-LEVEL WIND SHEAR	- 36HR
Est. Data Trans.		
0 min.		
<input checked="" type="checkbox"/> OK <input type="checkbox"/> CANCEL		

FIGURE 160. Scanned (Picture) Products Selection Window

After exiting the Scanned (Picture) Products Selection window, the [New] - Product Selection window reappears, containing the requested raster product. See figure 161.

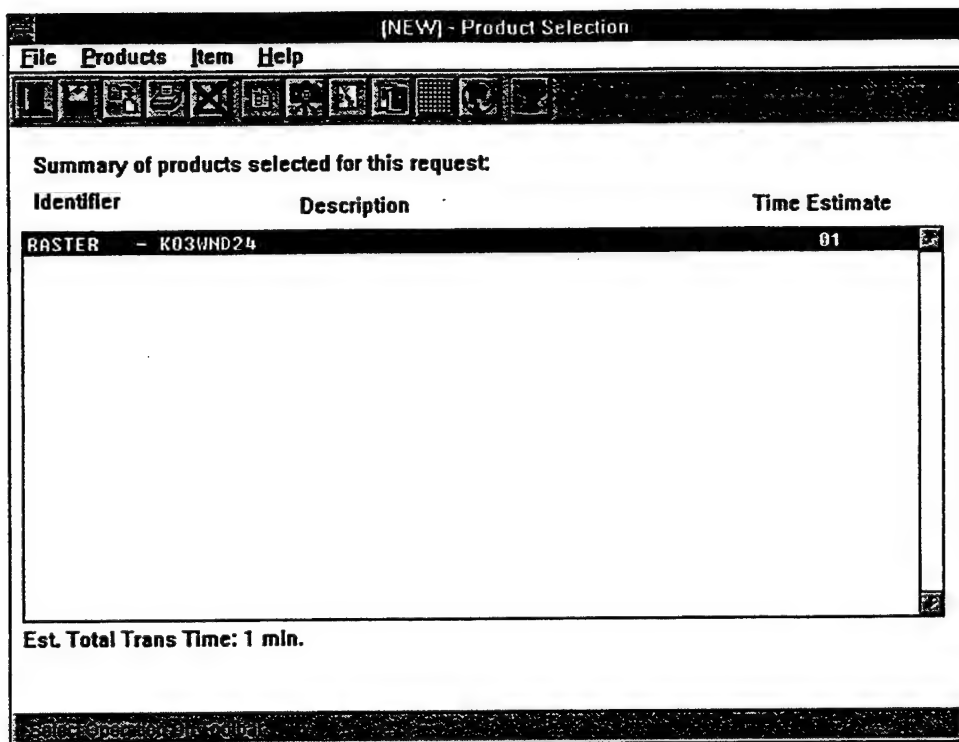


FIGURE 161. [New] - Product Selection Display with Request

To add a chart, selecting the Charts option on the [New] - Product Selection Products list or the toolbar button (ninth from the left, overlapped charts icon) opens the Chart Product Selection window. See figure 162.

Chart Product Selection

Select Area:
CENTAL
New Show

Levels:
MULT
SFC
1000
850
700
500
400
300

Forecast:
ANAL
3
12
18
24
36
48
72

Type:
PROG
MAN
ANAL

Format:
RASTER
VECTOR

Select From Product Options ...

Name	Description

Est. Data Transmission Time: 0 min.

Buttons: [Check] [X] [X]

FIGURE 162. Chart Product Selection Window

From the Chart Product Selection window, select the New button to open the [New] - Area Definition window. See figures 163 and 164. Move the selection box by clicking and dragging the box to the desired location. The box can also be moved by successively pressing arrow keys to position the box over the desired location. The selection box can be resized by clicking the mouse cursor on the small box at the lower right corner of the selection box and dragging the box to obtain the desired size. To resize the selection without a mouse, press the Shift and appropriate arrow key simultaneously. The defined areas can be named and saved as area definition files for future retrievals. See figure 165 for an example of the [New] - Area Definition File SaveAs window.

Chart Product Selection

Select Area: <div style="border: 1px solid black; padding: 2px; width: 100px;">CENTAL</div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="border: 1px solid black; padding: 2px; text-align: center;">New</div> <div style="border: 1px solid black; padding: 2px; text-align: center;">Show</div> </div>	Levels: <div style="border: 1px solid black; padding: 2px;"> MULT SFC 1000 850 700 500 400 300 </div>	Forecast: <div style="border: 1px solid black; padding: 2px;"> ANAL 3 12 18 24 36 48 72 </div>	Type: <div style="border: 1px solid black; padding: 2px;"> PROG MAN ANAL </div> Format: <div style="border: 1px solid black; padding: 2px;"> RASTER VECTOR </div>	<div style="border: 1px solid black; width: 40px; height: 40px; margin-bottom: 5px;"></div> <div style="border: 1px solid black; width: 40px; height: 40px; margin-bottom: 5px;"></div> <div style="border: 1px solid black; width: 40px; height: 40px;"></div>
---	--	---	---	---

Select From Product Options ...

Name	Description

Est. Data Transmission Time: 0 min.

[Icon]


[Icon]

[X]

FIGURE 163. Chart Product Selection Window - New Area Button

[NEW] - Area Definition

File
Projection
Help



Coordinates

Upper Left

Lat: 57

Lon: 145

Lower Right

Lat: 69

Lon: -35

FIGURE 164. [New] - Area Definition Window

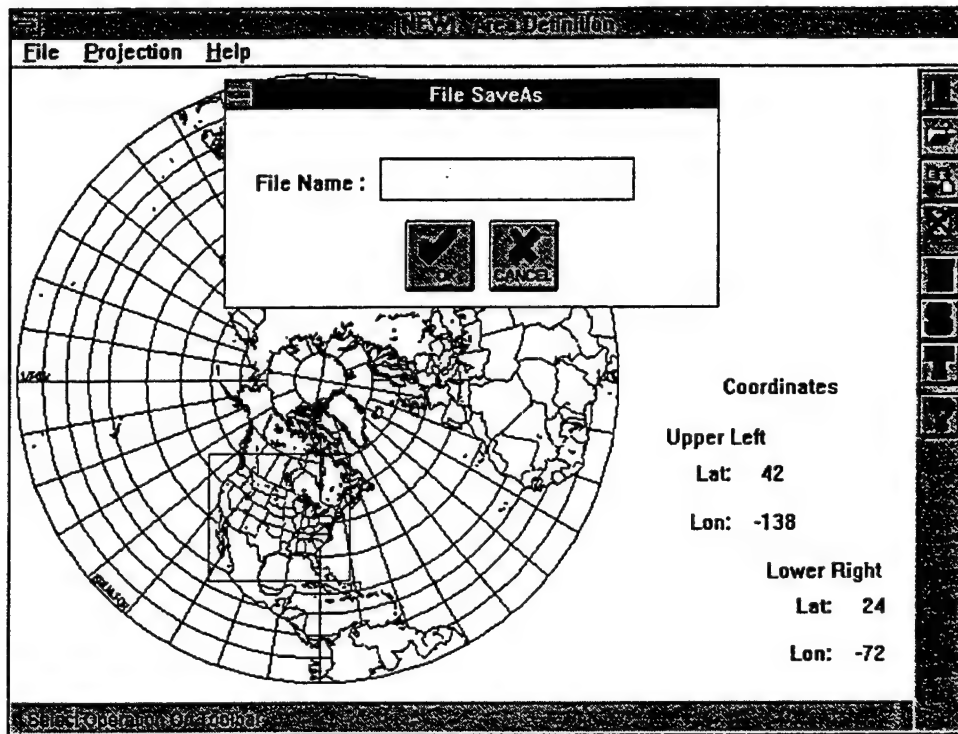


FIGURE 165. File SaveAs Dialog for Saving the Request Area Definition File

As an example, create a box covering the continental US (CONUS), then select the File/SaveAs menu option to save the request file. See figures 166 and 167.

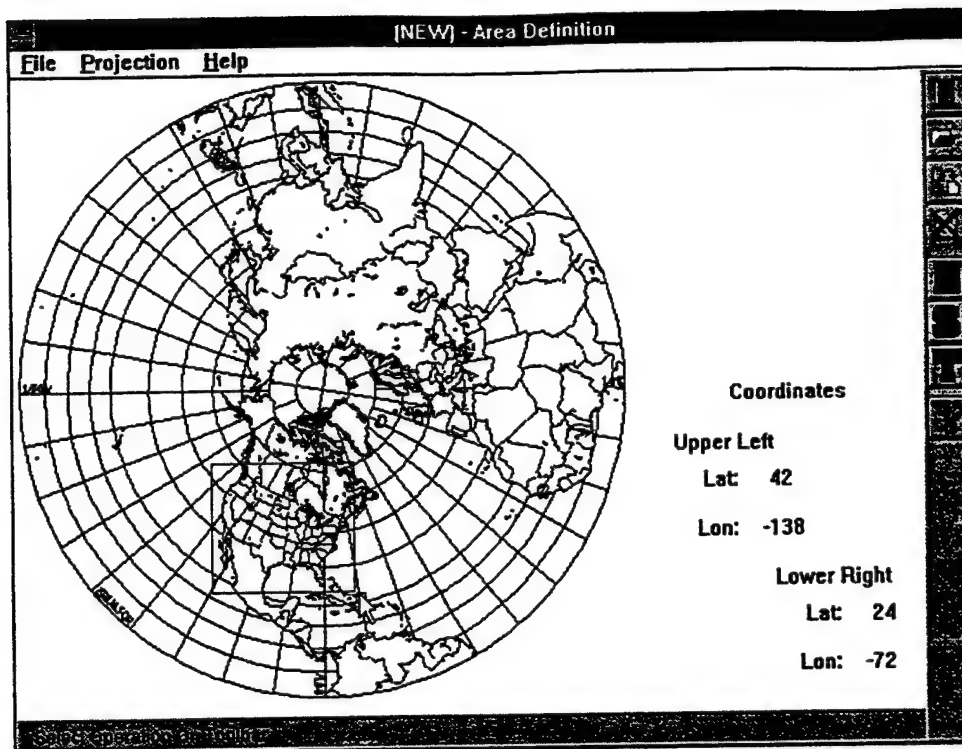


FIGURE 166. Selection Example

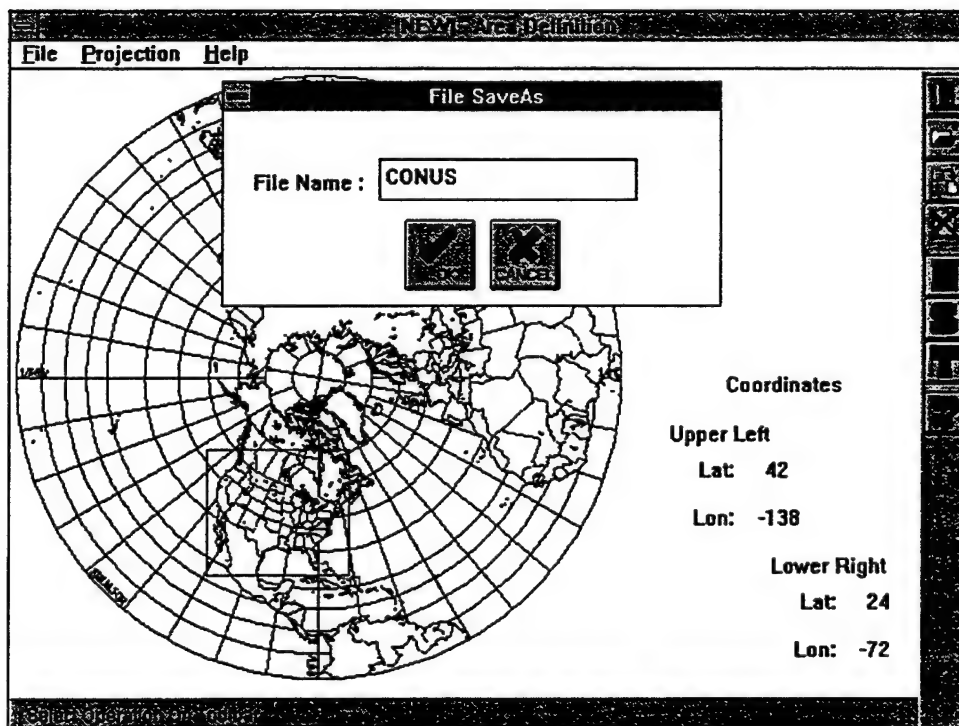


FIGURE 167. SaveAs Example

Close the [New] - Area Definition window by selecting File Exit and return to the Chart Product Selection window. CONUS should appear in the Select Area: box. If it is not, open the Select Area: box and highlight CONUS. Highlight the desired Levels, Forecast, Type, and Format selections, then click the Add button on the right side of the window and the files satisfying the selected criteria will be displayed. Highlight the desired selection (ASNH in the example) in the Select From Product Options ... box, then click the "OK" button to save the file and exit the window. See figure 168.

The screenshot shows the 'Chart Product Selection' window. It contains several selection fields and a list of product options.

Select Area: CONUS

Levels:

MULT
SFC
1000
850
700
500
400
300

Forecast:

ANAL
3
12
18
24
36
48
72

Type:

PROG
MAN
ANAL

Format:

RASTER
VECTOR

Select From Product Options ...

Name	Description
ASNH	- RASTER SFC ANAL
SBNARS98	- RASTER RADAR SUM CONTRS/LABELS

Est. Data Transmission Time: 1 min.

At the bottom right, there are three buttons: a checkmark button, a cross button, and a close button (X).

FIGURE 168. Chart Product Selection Window with Selections

Exiting the Chart Product Selection window redisplayes the [New] - Product Selection window containing the chart and picture request. See figure 169. This request file must be saved to the disk. Select File SaveAs from the menu or select the toolbar button (third from the left). As shown in the example in figure 170, REQUEST1 has been typed in the File Name: box. Select "OK" to save the file. The product request has been created and the window title now reads REQUEST1 - Product Selection. See figure 171.

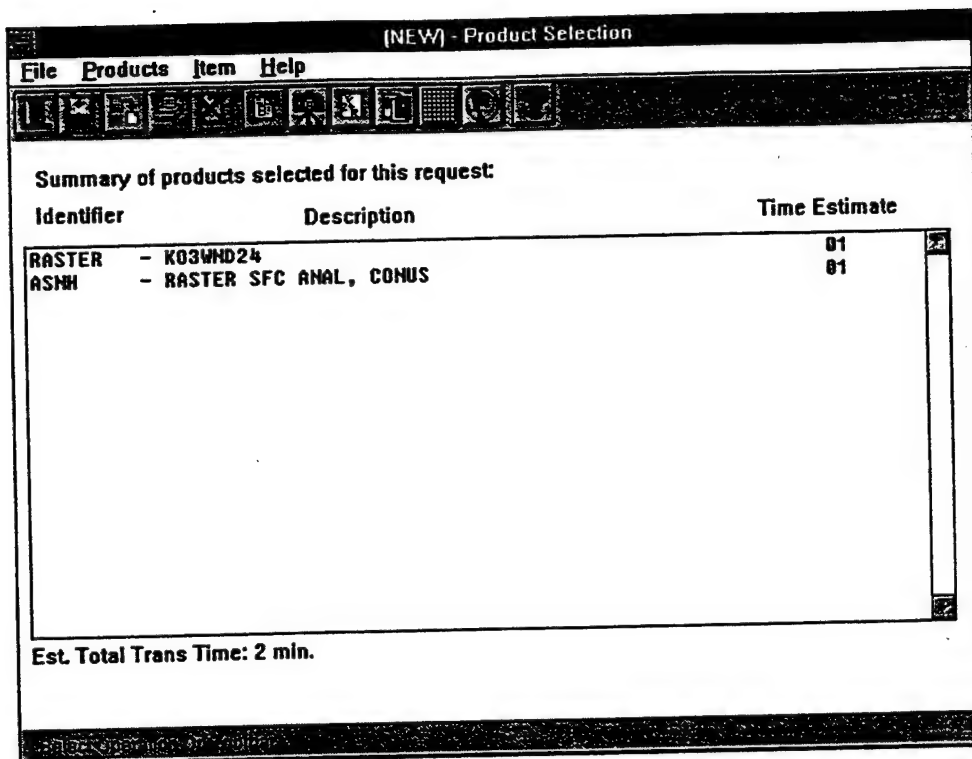


FIGURE 169. Product Selection with Two New Requests

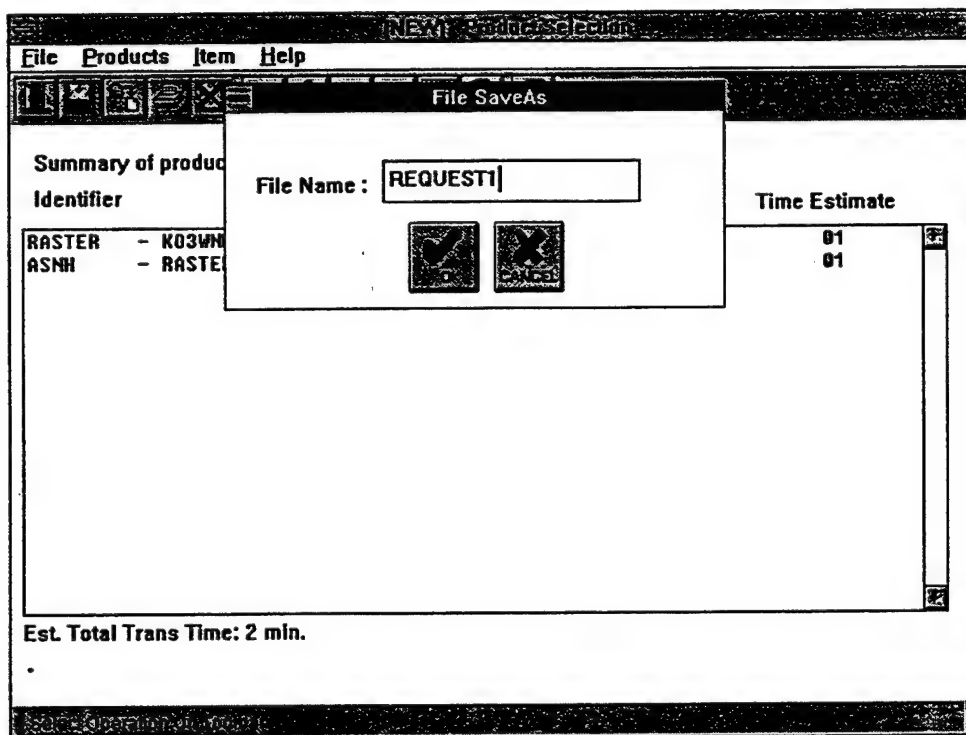


FIGURE 170. Saving the Request File to Disk

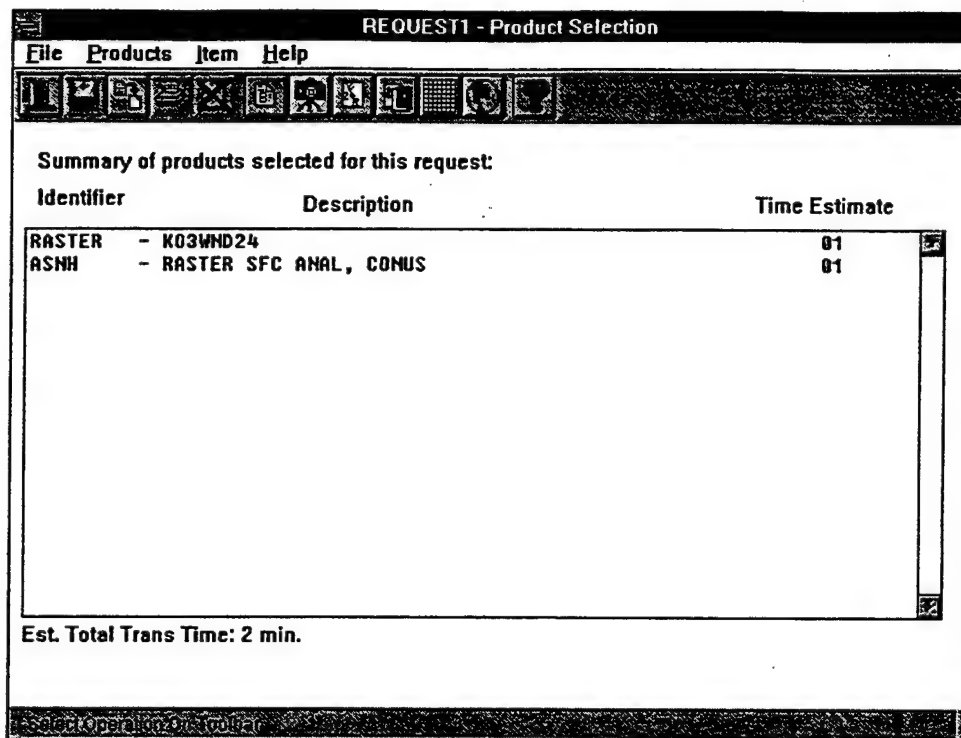


FIGURE 171. REQUEST1 - Product Selection

Close the REQUEST 1 - Product Selection window by selecting the File Exit menu option or the Exit toolbar button (leftmost button, door icon). The Retrieval window will have a new entry listing the REQUEST1 file. See figure 172.

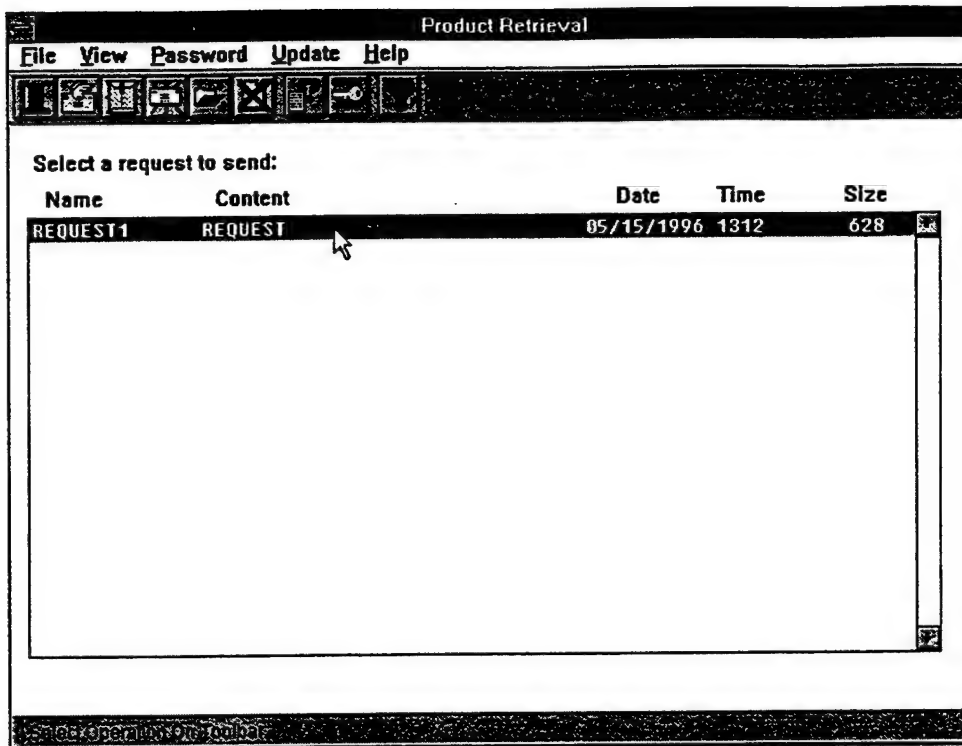


FIGURE 172. REQUEST1 - Product Retrieval

To send the request file, select REQUEST1 with the mouse or keyboard (Tab, arrow), then choose either the File Send menu option or the toolbar button (second from the left, letter with wings icon). See figures 173 and 174.

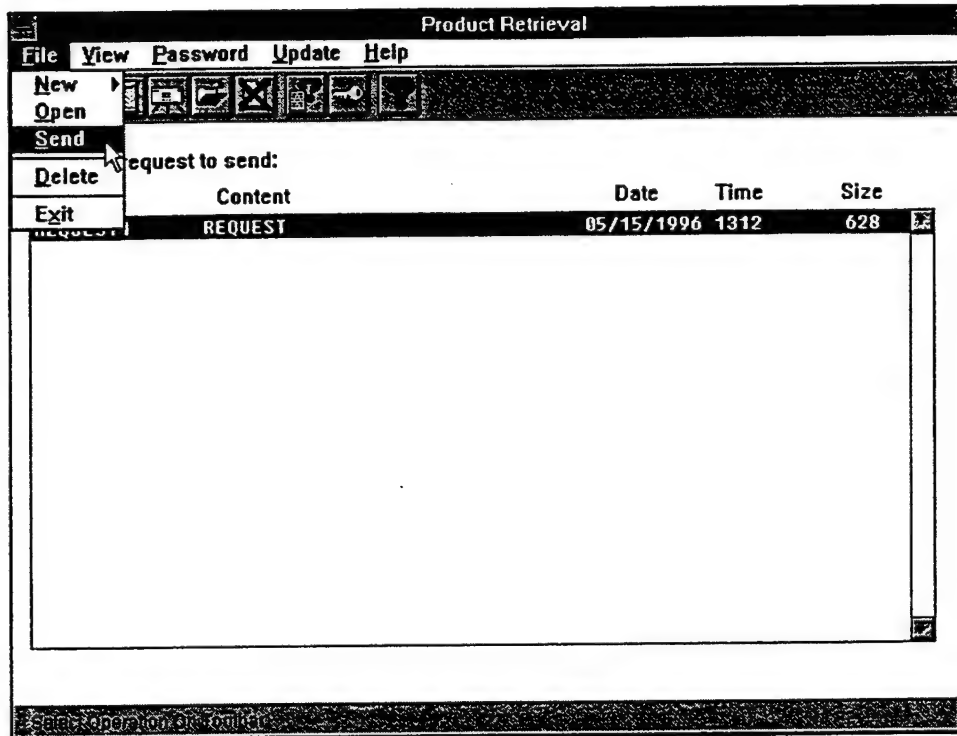


FIGURE 173. File Send Menu Option

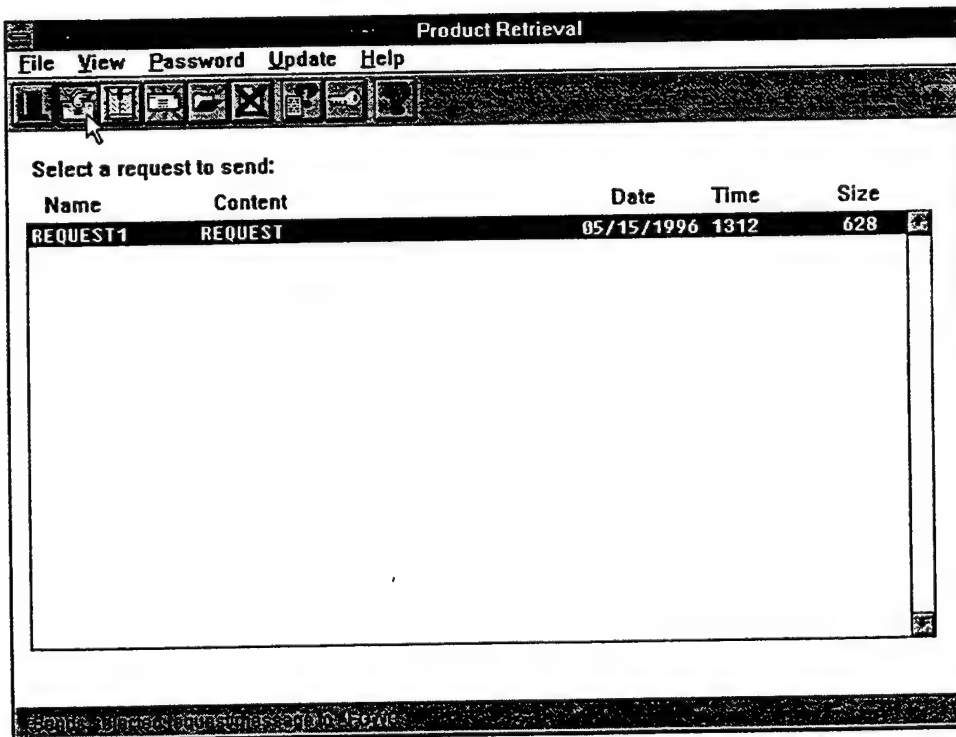


FIGURE 174. File Send Toolbar Option

Type the User Name and the AFGWC-supplied Password in the Login box and select the "OK" button. Note: Select the Help About menu item for the AFGWC/DOO phone number to obtain a password if one has not already been assigned. See figure 175.

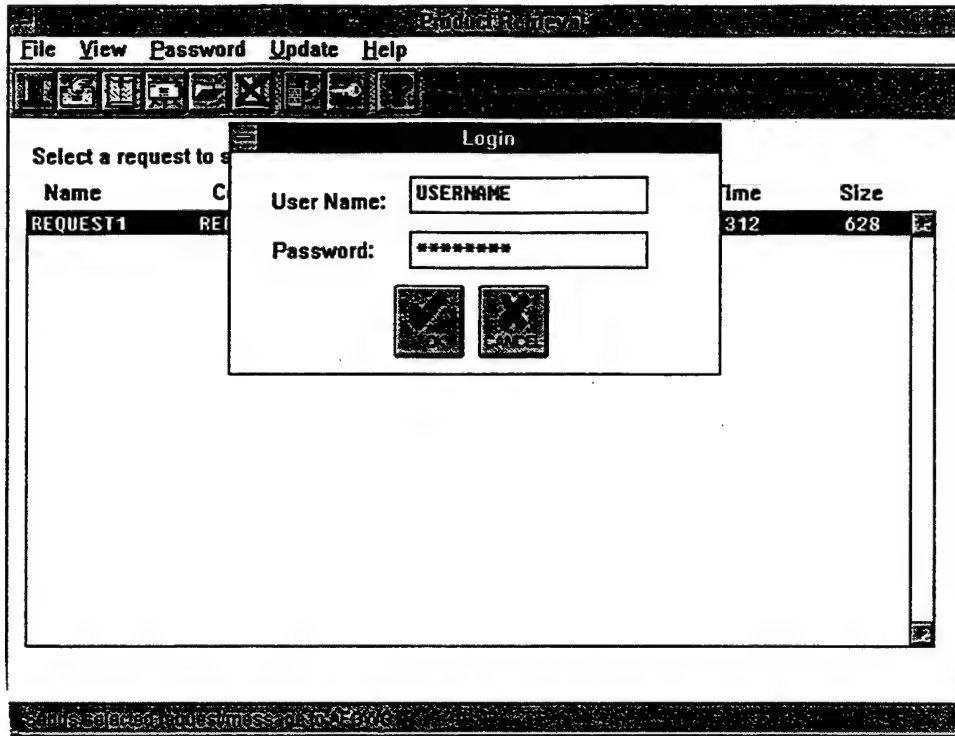


FIGURE 175. Login Dialog

PROCOMM PLUS will be invoked and will begin executing. See figure 176.

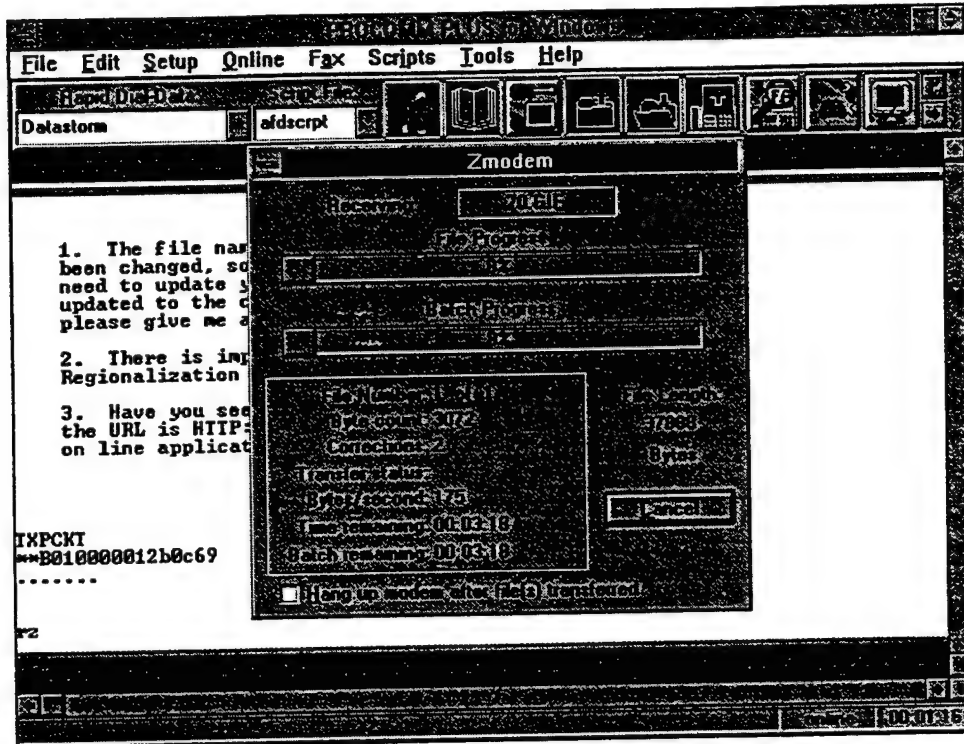


FIGURE 176. PROCOMM PLUS Execution

PROCOMM PLUS dials the telephone number and connects to the AFDIS host computer. After the products have been returned, the disconnect and processing sequence will begin and the Product Retrieval Window will reappear. AFGWC databases are updated frequently. A message stating which databases have been updated may appear in the Product Retrieval window. See figure 177.

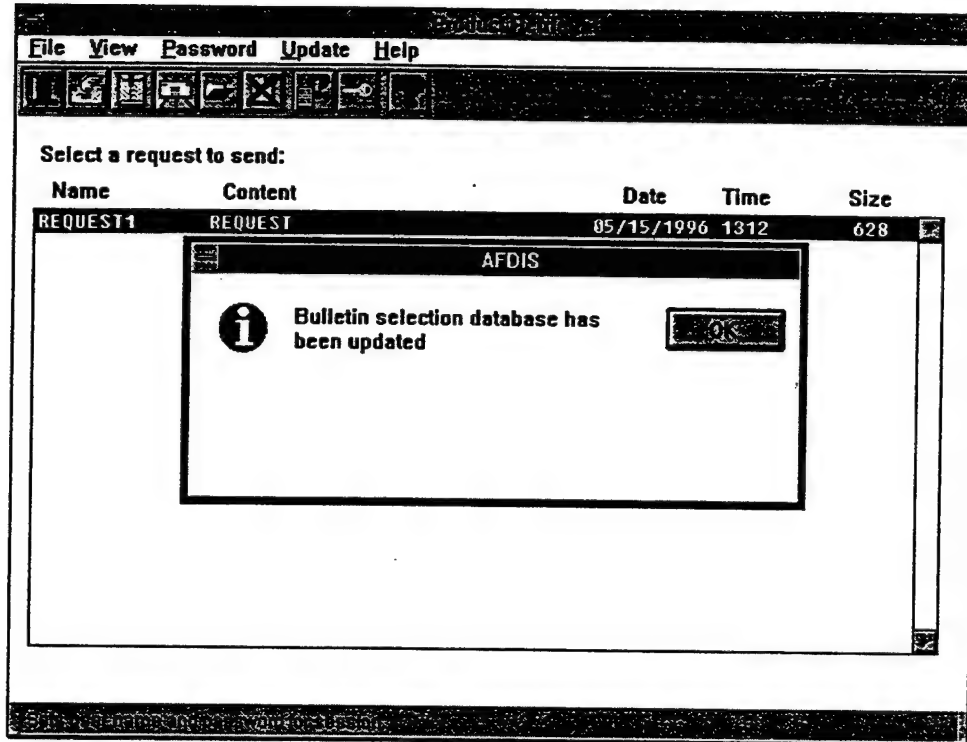
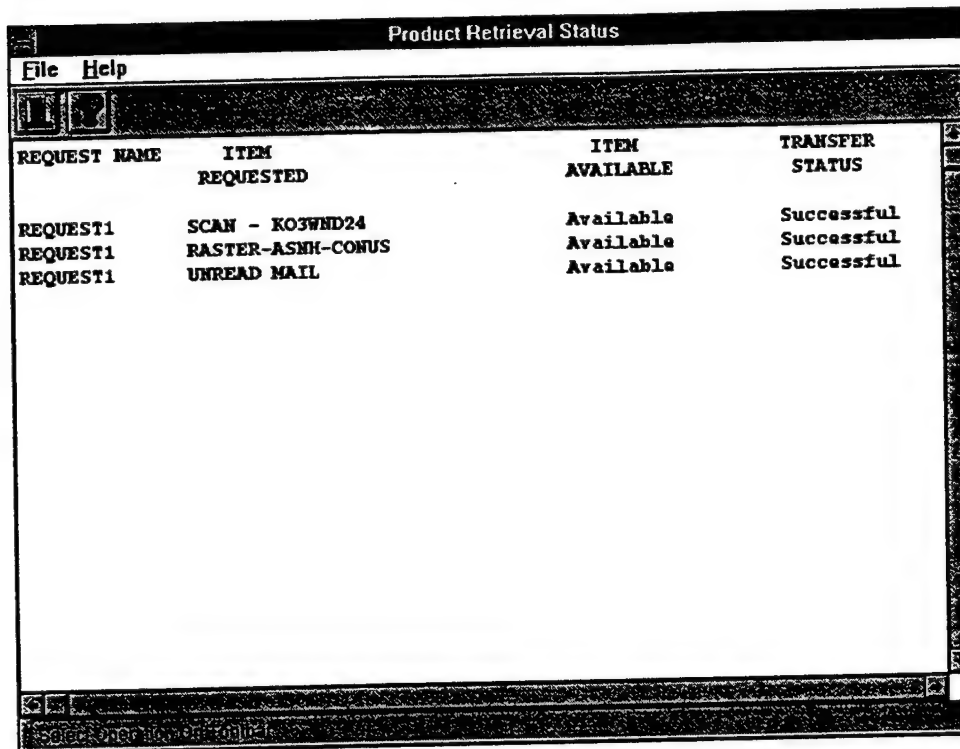


FIGURE 177. PROCOMM PLUS File Processing

Each product request has a status file. Select the Product Retrieval window View Retrieval Results menu item or the toolbar button (seventh button from the left, letter with a question mark icon) to display the Product Retrieval Status window. See figure 178.



REQUEST NAME	ITEM REQUESTED	ITEM AVAILABLE	TRANSFER STATUS
REQUEST1	SCAN - KO3WHD24	Available	Successful
REQUEST1	RASTER-ASNH-CONUS	Available	Successful
REQUEST1	UNREAD MAIL	Available	Successful

FIGURE 178. Product Retrieval Status Window

The request name, item requested, availability, and transfer status are displayed. Products not available at AFGWC are listed as "Not Available." Available products which were not transferred will be listed as "Unsuccessful".

Exit the Product Retrieval Status window. Exit the Product Retrieval window to return to the AFDIS - Program Options window.

To display the products, select the File Display menu or the toolbar button (third from the left, a globe icon). The Product Display Selection window will appear. See figure 179.

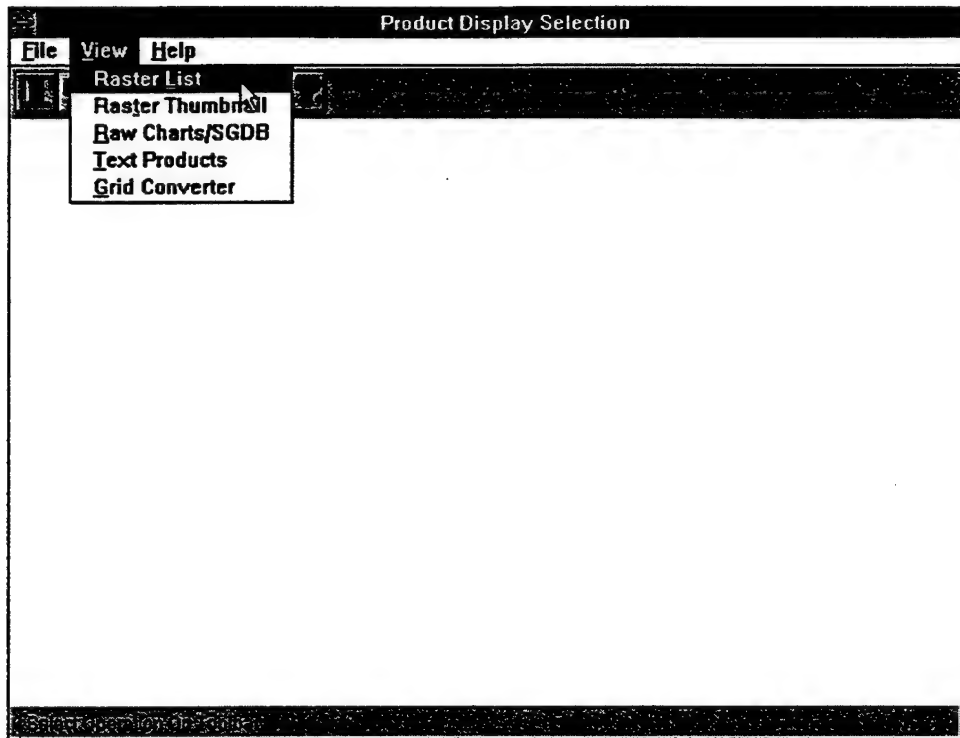


FIGURE 179. Product Display Selection - Menu Option

Select the View Raster List menu option or the toolbar button (second from the left, camera on a tripod icon). See figure 180.

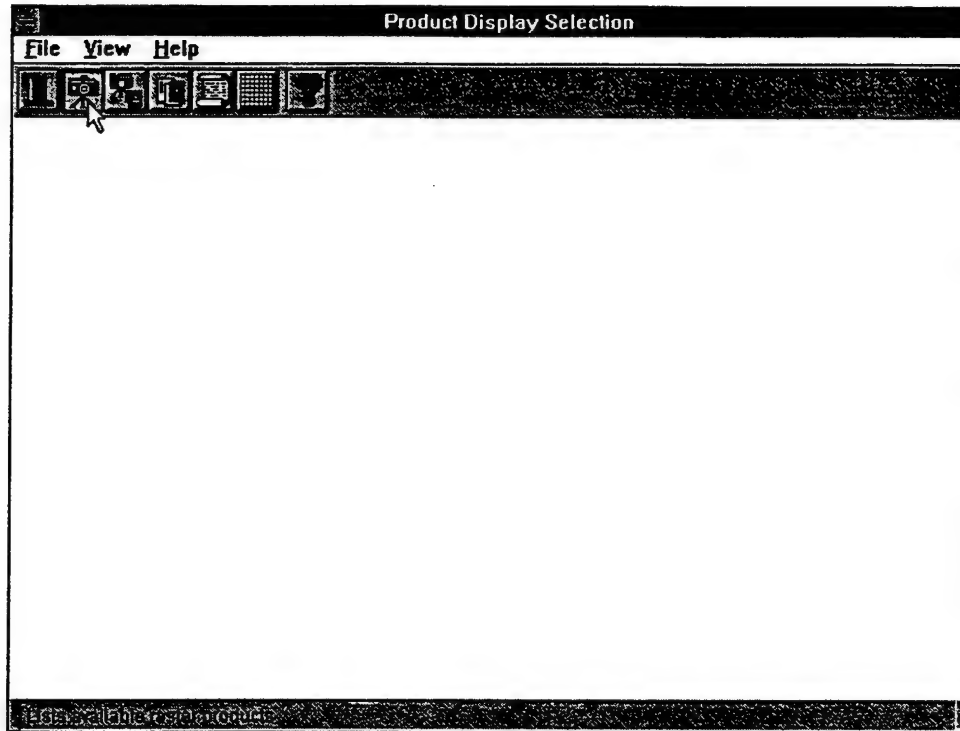


FIGURE 180. Product Display Selection - Toolbar Option

The Picture Product Selection window is displayed. See figure 181. To display a file, either double click on the desired filename, or select the File Display menu option, or choose the toolbar Open button (second from the left, opened file icon). See figure 181.

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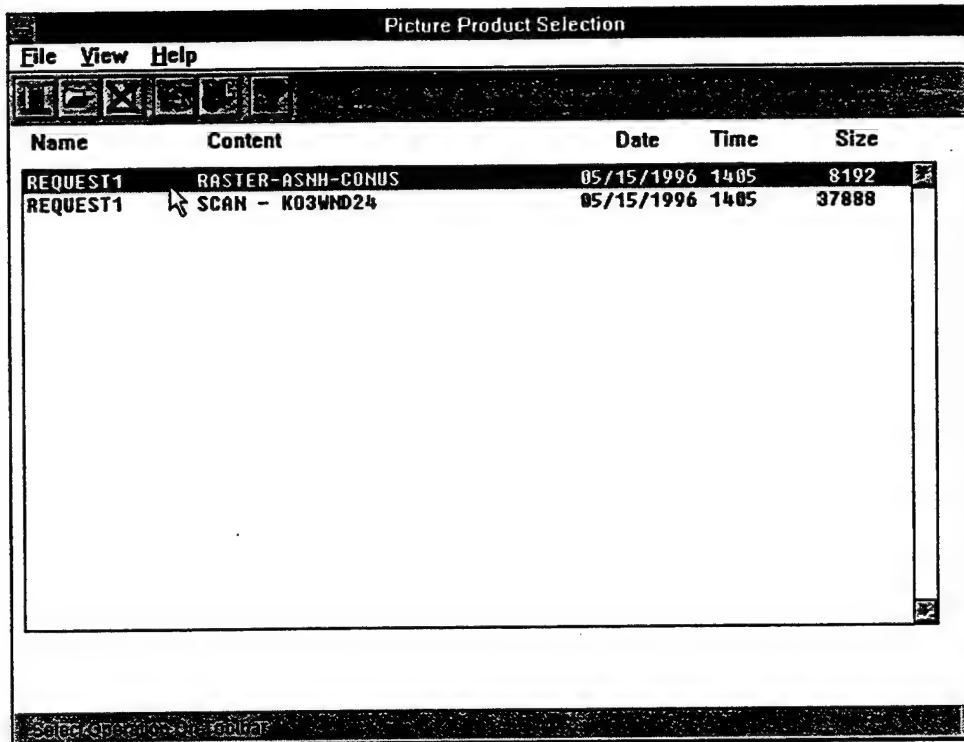


FIGURE 181. Picture Product Selection - Retrieved Files

Paint Shop Pro now displays the selected file. See figure 182.

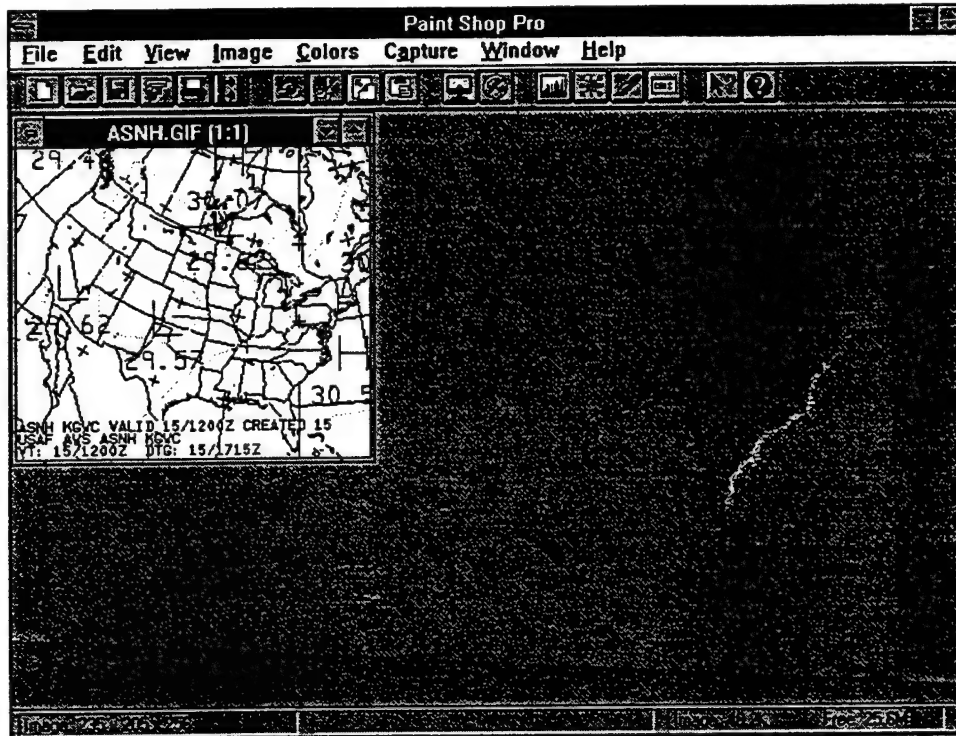


FIGURE 182. Paint Shop Pro Picture Product Selection

To close Paint Shop Pro double click the Close button in the upper left corner of the window. The AFDIS Picture Product Selection window will appear. To close the Picture Product Selection window, select the File Exit menu option. The Product Display Selection window will appear. Select the File Close menu option which returns the user to the AFDIS - Program Options window. Select the File Exit menu option to exit AFDIS and return to the MS Windows environment.

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APPENDIX C

MS WINDOWS 3.1

30.1 Purpose. This appendix presents a brief explanation of MS window terminology for new users of MS Windows 3.1. Refer to the Microsoft Windows Version 3.1 handbook for additional information.

30.2 Starting an application. From the Program Manager window, start an application by using the mouse to double-click the appropriate icon. Icons for some applications may be in other application groups. Refer to figure 183.

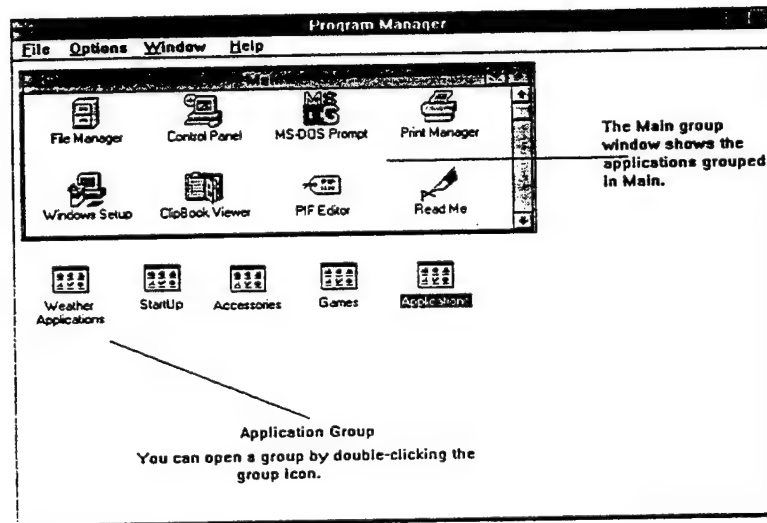


FIGURE 183. Starting an Application

After double-clicking the icon, the application appears in an active window as illustrated in figure 184.

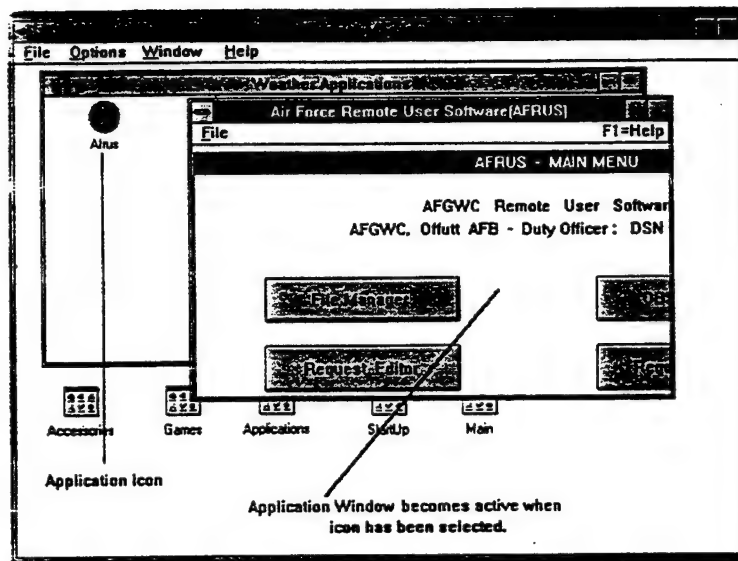


FIGURE 184. Application Window

30.3. Using a menu. Each application window has one or more menus. A menu contains a list of command options which are available. To choose the menu, single click on menu names.

A menu can also be activated with a keyboard entry by pressing the "Alt" key at the same time the underlined or "hot key" is pressed. Letters underlined in the menu name indicate the hot keys as illustrated in figure 185.

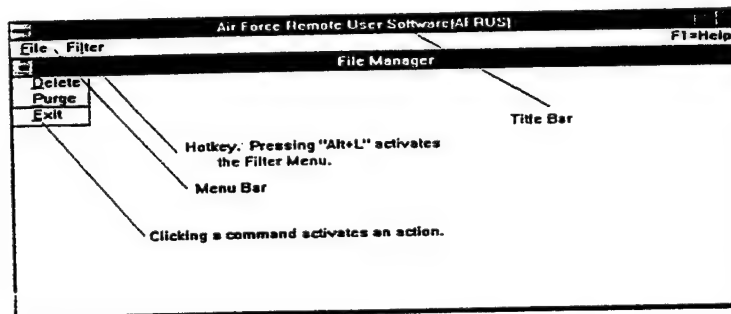


FIGURE 185. Hot Keys

30.4 Reducing an application to an icon. Applications can temporarily be put aside and minimized to an icon. The application continues executing, but takes less screen space. By selecting the minimize button, the window is reduced to an icon until the application is needed again. Refer to figures 186 and 187.

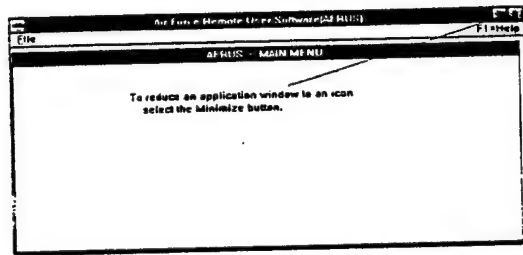


FIGURE 186. Reducing an Application

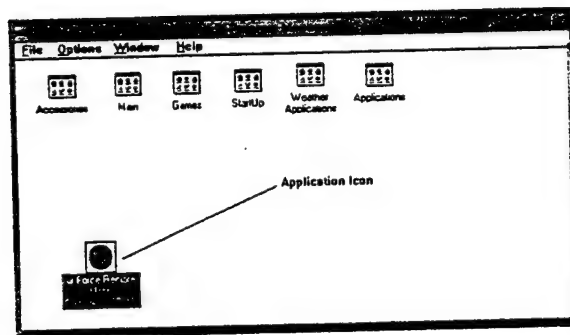


FIGURE 187. Application Icon

30.5 Quitting an application. There are several methods for quitting an application when using a mouse. The quickest is to double click the MS Windows control menu box. The user may also click on the control menu box once to display the control menu, then click the close command as illustrated in figure 188.

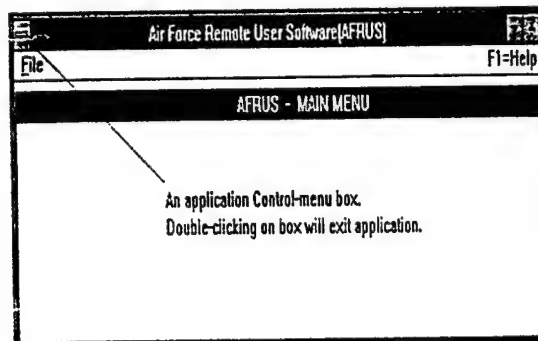


FIGURE 188. Quitting an Application

30.6 Scrolling to view information. When information is too large to be displayed in a window, scroll bars appear on the right side and bottom of the window. If scroll bars are not displayed, either the data fits the window, or the window cannot be scrolled. Reference figure 189.

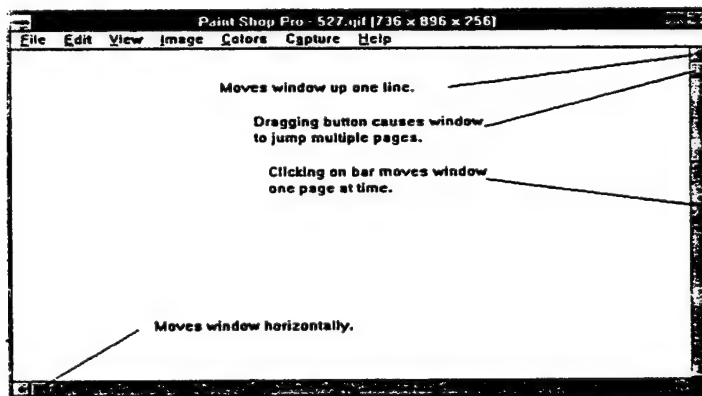


FIGURE 189. Scrolling to View Information

By selecting the scroll arrow buttons, the window moves in the indicated direction one line. Clicking on the slide button and dragging it moves the window in large sections. Clicking on the slide bar moves the window one page at a time.

30.7 Selecting multiple list items with a mouse. MS Windows 3.1 permits several selection options using a mouse. To select a range of multiple items from a list, select the first item with the mouse. Press the "Shift" key and select the last item in the group. All items between the first and last items will be selected.

To select isolated multiple items, press the "Ctrl" key and select individual items with the mouse. Only individual items will be selected.

30.8 Navigation without a mouse. Window applications usually provide keyboard navigation for users not using a mouse. The following list contains the standard keys implemented for MS Windows 3.1 and AFDIS applications.

WINDOW OPERATIONS

OPERATION: Switch to another running program

IMPLEMENTATION: Hold down "Alt+Tab" or "Alt+Esc" until name appears

OPERATION: Activate/deactivate menubar

IMPLEMENTATION: Press "Alt"

OPERATION: Open menu

IMPLEMENTATION: Activate menu, type menu's hot key.

OPERATION: Select menu option

IMPLEMENTATION: Open menu. Type option's hot key; or highlight "Enter" option

OPERATION: Move forward/backward to text boxes, checkboxes and buttons

IMPLEMENTATION: Press "Tab"/"Shift+Tab"

OPERATION: Check/uncheck selected check box

IMPLEMENTATION: Press "Space"

OPERATION: Cancel dialog box

IMPLEMENTATION: Press "Esc"

DIALOG OPERATIONS

OPERATION: Select list item

IMPLEMENTATION: Use arrow keys until desired item is highlighted, then press "Enter".

OPERATION: Selecting a range of multiple items from list

IMPLEMENTATION: Use arrow keys until first item is highlighted. Hold the "Shift" key while using the arrow keys to highlight and select the items in the group.

OPERATION: Selecting isolated multiple items from list.

IMPLEMENTATION: Press "Shift" and "F8" keys to toggle the list selection position on. Use arrow keys to move the selection position, then press the space bar to highlight items.

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APPENDIX D

AVAILABLE PRODUCTS AND LISTING SUMMARY

40.1 Purpose. This appendix contains an abbreviated description of vector weather charts available from AFDIS. Due to the changing nature of the RWM windows, contact AFGWC/DOO (DSN 271-5987) for current RWM data available on AFDIS.

40.2 AFDIS weather charts.

NAME	FORMAT	TYPE	TYPE2	LOCATION	LVL	HOOR	HEM	DESCRIPTION
FANA	RASTER	PROG	MAN	CONUS	MULT	3	N	RASTER TURBC BLO 10K 22-10Z
FANA	RASTER	PROG	MAN	CONUS	MULT	3	N	RASTER ICG BLO 10K 10-22Z
FANA	RASTER	PROG	MAN	CONUS	MULT	3	N	RASTER ICG BLO 10K 16-04Z
FANA	RASTER	PROG	MAN	CONUS	MULT	3	N	RASTER ICG BLO 10K 04-16Z
FANA	RASTER	PROG	MAN	CONUS	MULT	3	N	RASTER TURBC BLO 10K 10-22Z
FANA	RASTER	PROG	MAN	CONUS	MULT	3	N	RASTER TURBC BLO 10K 04-16Z
FANA	RASTER	PROG	MAN	CONUS	MULT	3	N	RASTER TURBC BLO 10K 16-04Z
FWUS	RASTER	PROG	MAN	CONUS	SFC	18	N	RASTER ICG BLO 10K 22-10Z
WWUS	RASTER	PROG	MAN	CONUS	SFC	18	N	RASTER MWA OUTLOOK 10-24Z
WWUS	RASTER	PROG	MAN	CONUS	SFC	18	N	RASTER MWA OUTLOOK 22-12Z
WWUS-A	RASTER	PROG	MAN	CONUS	SFC	3	N	RASTER MWA 04-16Z
WWUS-B	RASTER	PROG	MAN	CONUS	SFC	3	N	RASTER MWA 10-22Z
WWUS-C	RASTER	PROG	MAN	CONUS	SFC	3	N	RASTER MWA 16-04Z
WWUS-D	RASTER	PROG	MAN	CONUS	SFC	3	N	RASTER MWA 22-10Z
SBNARS90	RASTER	ANAL	MAN	NORTH AM	SFC	ANAL	N	RASTER RADAR SUM CONTRS/LABELS
FENH66	RASTER	PROG	MODEL	NORTH_HEM	MULT	72	N	RASTER MRF 72HR 1000 GPH/1000-500MB THK
FENH67	RASTER	PROG	MODEL	NORTH_HEM	MULT	96	N	RASTER MRF 96HR 1000 GPH/1000-500MB THK
FENH68	RASTER	PROG	MODEL	NORTH_HEM	MULT	120	N	RASTER MRF 120HR 1000 GPH/1000-500MB THK
FENH69	RASTER	PROG	MODEL	NORTH_HEM	MULT	144	N	RASTER MRF 144HR 1000 GPH/1000-500MB THK
FENH70	RASTER	PROG	MODEL	NORTH_HEM	MULT	168	N	RASTER MRF 168HR 1000 GPH/1000-500MB THK
FENH71	RASTER	PROG	MODEL	NORTH_HEM	MULT	192	N	RASTER MRF 192HR 1000 GPH/1000-500MB THK
FENH72	RASTER	PROG	MODEL	NORTH_HEM	MULT	216	N	RASTER MRF 216HR 1000 GPH/1000-500MB THK
FENH73	RASTER	PROG	MODEL	NORTH_HEM	MULT	240	N	RASTER MRF 240HR 1000 GPH/1000-500MB THK
TROP	RASTER	ANAL	MAN	TROPICAL	SFC	ANAL	T	RASTER FNTS/PRES CNTR ANAL
TROP	RASTER	ANAL	MAN	TROPICAL	MULT	ANAL	T	RASTER TURBC ANAL
TROP	RASTER	PROG	MAN	TROPICAL	MULT	24	T	RASTER 24HR ICG PROG
TROP	RASTER	PROG	MAN	TROPICAL	MULT	24	T	RASTER 24HR TURBC PROG
TROP	RASTER	PROG	MAN	TROPICAL	MULT	12	T	RASTER 12HR TURBC PROG
TROP	RASTER	ANAL	MAN	TROPICAL	MULT	ANAL	T	RASTER ICG ANAL
TROP	RASTER	ANAL	MAN	TROPICAL	MULT	ANAL	T	RASTER TSTMS ANAL
TROP	RASTER	PROG	MAN	TROPICAL	MULT	24	T	RASTER 24HR TSTMS PROG
TROP	RASTER	PROG	MAN	TROPICAL	MULT	12	T	RASTER 12HR ICG PROG
TROP	RASTER	PROG	MAN	TROPICAL	MULT	24	T	RASTER 24HR UPF LVL CLD PROG
TROP	RASTER	PROG	MAN	TROPICAL	MULT	12	T	RASTER 12HR TSTMS PROG
TROP	RASTER	PROG	MAN	TROPICAL	SFC	24	T	RASTER 24HR FNTS/PRES CNTR/SIG
WXASNH	RASTER	ANAL	MAN	WEST_HEM	SFC	ANAL	N	RASTER SFC ANAL
FANH2	RASTER	PROG	MAN	WEST_HEM	MULT	24	N	RASTER 24HR TSTMS/ICG PROG 21-12Z
FANH2	RASTER	PROG	MAN	WEST_HEM	MULT	24	N	RASTER 24HR TURBC PROG 09-24Z
FANH2	RASTER	PROG	MAN	WEST_HEM	MULT	24	N	RASTER 24HR TURBC PROG 21-12Z
FANH2	RASTER	PROG	MAN	WEST_HEM	MULT	24	N	RASTER 24HR TSTMS/ICG PROG 09-24Z
FANH3	RASTER	PROG	MAN	WEST_HEM	MULT	36	N	RASTER 36HR TURBC PROG 00-12Z
FANH3	RASTER	PROG	MAN	WEST_HEM	MULT	36	N	RASTER 36HR TSTMS/ICG PROG 12-24Z
FANH3	RASTER	PROG	MAN	WEST_HEM	MULT	36	N	RASTER 36HR TURBC PROG 12-24Z
FANH3	RASTER	PROG	MAN	WEST_HEM	MULT	36	N	RASTER 36HR TSTMS/ICG PROG 00-12Z
FHNH2	RASTER	PROG	MAN	WEST_HEM	MULT	24	N	RASTER 24HR LOW LVL CLDS/PRECIP
FHNH3	RASTER	PROG	MAN	WEST_HEM	MULT	36	N	RASTER 36HR LOW LVL CLDS/PRECIP
FSNH2	RASTER	PROG	MAN	WEST_HEM	SFC	24	N	RASTER 24HR SFC PROG
FSNH3	RASTER	PROG	MAN	WEST_HEM	SFC	36	N	RASTER 36HR SFC PROG
FUNH2	RASTER	PROG	MAN	WEST_HEM	MULT	24	N	RASTER 24HR UPF LVL CLD PROG
FUNH3	RASTER	PROG	MAN	WEST_HEM	MULT	36	N	RASTER 36HR UPF LVL CLD PROG
AHVB0T90	VECTOR	ANAL	RWM	2	MULT	ANAL	N	VECTOR RWM-2 CN2 1000-500MB THKNS ANAL
AHVB0Z90	VECTOR	ANAL	RWM	2	MULT	ANAL	N	VECTOR RWM-2 CN2 1000-850MB THKNS ANAL
ASVB0SP0	VECTOR	ANAL	RWM	2	SFC	ANAL	N	VECTOR RWM-2 CN2 SFC SLP/RRA ANAL
AUVB00G0	VECTOR	ANAL	RWM	2	1000	ANAL	N	VECTOR RWM-2 CN2 1000MB RH/GPH ANAL
AUVB03G0	VECTOR	ANAL	RWM	2	300	ANAL	N	VECTOR RWM-2 CN2 300MB RH/GPH ANAL
AUVB04G0	VECTOR	ANAL	RWM	2	400	ANAL	N	VECTOR RWM-2 CN2 400MB RH/GPH ANAL
AUVB05G0	VECTOR	ANAL	RWM	2	500	ANAL	N	VECTOR RWM-2 CN2 500MB RH/GPH/VRT ANAL
AUVB07G0	VECTOR	ANAL	RWM	2	700	ANAL	N	VECTOR RWM-2 CN2 700MB RH/GPH ANAL
AUVB08G0	VECTOR	ANAL	RWM	2	850	ANAL	N	VECTOR RWM-2 CN2 850MB RH/GPH ANAL

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NAME	FORMAT	TYPE	TYPE2	LOCATION	LVL	HOOR	HEM	DESCRIPTION
ANVB0090	VECTOR	ANAL	RWM	2	1000	ANAL	N	VECTOR RWM-2 CN2 1000MB WND/TMP ANAL
ANVB0390	VECTOR	ANAL	RWM	2	300	ANAL	N	VECTOR RWM-2 CN2 300MB WND/TMP ANAL
ANVB0590	VECTOR	ANAL	RWM	2	500	ANAL	N	VECTOR RWM-2 CN2 500MB WND/TMP ANAL
ANVB0790	VECTOR	ANAL	RWM	2	700	ANAL	N	VECTOR RWM-2 CN2 700MB WND/TMP ANAL
ANVB0890	VECTOR	ANAL	RWM	2	850	ANAL	N	VECTOR RWM-2 CN2 850MB WND/TMP ANAL
ANVB0S90	VECTOR	ANAL	RWM	2	SFC	ANAL	N	VECTOR RWM-2 CN2 SFC WND/TMP ANAL
AXVB0SX0	VECTOR	ANAL	RWM	2	SFC	ANAL	N	VECTOR RWM-2 CN2 INV HGT/TMP ANAL
FDVB0094	VECTOR	PROG	RWM	2	1000	12	N	VECTOR RWM-2 CN2 1000MB WND/TMP 12HR
FDVB0099	VECTOR	PROG	RWM	2	1000	36	N	VECTOR RWM-2 CN2 1000MB WND/TMP 36HR
FDVB009A	VECTOR	PROG	RWM	2	1000	24	N	VECTOR RWM-2 CN2 1000MB WND/TMP 24HR
FDVB0394	VECTOR	PROG	RWM	2	300	12	N	VECTOR RWM-2 CN2 300MB WND/TMP 12HR
FDVB0399	VECTOR	PROG	RWM	2	300	36	N	VECTOR RWM-2 CN2 300MB WND/TMP 36HR
FDVB039A	VECTOR	PROG	RWM	2	300	24	N	VECTOR RWM-2 CN2 300MB WND/TMP 24HR
FDVB0594	VECTOR	PROG	RWM	2	500	12	N	VECTOR RWM-2 CN2 500MB WND/TMP 12HR
FDVB0599	VECTOR	PROG	RWM	2	500	36	N	VECTOR RWM-2 CN2 500MB WND/TMP 36HR
FDVB059A	VECTOR	PROG	RWM	2	500	24	N	VECTOR RWM-2 CN2 500MB WND/TMP 24HR
FDVB0794	VECTOR	PROG	RWM	2	700	12	N	VECTOR RWM-2 CN2 700MB WND/TMP 12HR
FDVB0799	VECTOR	PROG	RWM	2	700	36	N	VECTOR RWM-2 CN2 700MB WND/TMP 36HR
FDVB079A	VECTOR	PROG	RWM	2	700	24	N	VECTOR RWM-2 CN2 700MB WND/TMP 24HR
FDVB0894	VECTOR	PROG	RWM	2	850	12	N	VECTOR RWM-2 CN2 850MB WND/TMP 12HR
FDVB0899	VECTOR	PROG	RWM	2	850	36	N	VECTOR RWM-2 CN2 850MB WND/TMP 36HR
FDVB089A	VECTOR	PROG	RWM	2	850	24	N	VECTOR RWM-2 CN2 850MB WND/TMP 24HR
FDVB0S94	VECTOR	PROG	RWM	2	SFC	12	N	VECTOR RWM-2 CN2 SFC WND/TMP 12HR
FDVB0S99	VECTOR	PROG	RWM	2	SFC	36	N	VECTOR RWM-2 CN2 SFC WND/TMP 36HR
FDVB0S9A	VECTOR	PROG	RWM	2	SFC	24	N	VECTOR RWM-2 CN2 SFC WND/TMP 24HR
FHVB0T94	VECTOR	PROG	RWM	2	MULT	12	N	VECTOR RWM-2 CN2 1000-500MB THKNS 12HR
FHVB0T99	VECTOR	PROG	RWM	2	MULT	36	N	VECTOR RWM-2 CN2 1000-500MB THKNS 36HR
FHVB0T9A	VECTOR	PROG	RWM	2	MULT	24	N	VECTOR RWM-2 CN2 1000-500MB THKNS 24HR
FHVB0Z94	VECTOR	PROG	RWM	2	MULT	12	N	VECTOR RWM-2 CN2 1000-850MB THKNS 12HR
FHVB0Z99	VECTOR	PROG	RWM	2	MULT	36	N	VECTOR RWM-2 CN2 1000-850MB THKNS 36HR
FHVB0Z9A	VECTOR	PROG	RWM	2	MULT	24	N	VECTOR RWM-2 CN2 1000-850MB THKNS 24HR
FQVB00G4	VECTOR	PROG	RWM	2	1000	12	N	VECTOR RWM-2 CN2 1000MB RH/GPH 12HR
FQVB00G9	VECTOR	PROG	RWM	2	1000	36	N	VECTOR RWM-2 CN2 1000MB RH/GPH 36HR
FQVB00GA	VECTOR	PROG	RWM	2	1000	24	N	VECTOR RWM-2 CN2 1000MB RH/GPH 24HR
FQVB03G4	VECTOR	PROG	RWM	2	300	12	N	VECTOR RWM-2 CN2 300MB RH/GPH 12HR
FQVB03G9	VECTOR	PROG	RWM	2	300	36	N	VECTOR RWM-2 CN2 300MB RH/GPH 36HR
FQVB03GA	VECTOR	PROG	RWM	2	300	24	N	VECTOR RWM-2 CN2 300MB RH/GPH 24HR
FQVB04G4	VECTOR	PROG	RWM	2	400	12	N	VECTOR RWM-2 CN2 400MB RH/GPH 12HR
FQVB04G9	VECTOR	PROG	RWM	2	400	36	N	VECTOR RWM-2 CN2 400MB RH/GPH 36HR
FQVB04GA	VECTOR	PROG	RWM	2	400	24	N	VECTOR RWM-2 CN2 400MB RH/GPH 24HR
FQVB05G4	VECTOR	PROG	RWM	2	500	12	N	VECTOR RWM-2 CN2 500MB RH/GPH/VRT 12HR
FQVB05G9	VECTOR	PROG	RWM	2	500	36	N	VECTOR RWM-2 CN2 500MB RH/GPH/VRT 36HR
FQVB05GA	VECTOR	PROG	RWM	2	500	24	N	VECTOR RWM-2 CN2 500MB RH/GPH/VRT 24HR
FQVB07G4	VECTOR	PROG	RWM	2	700	12	N	VECTOR RWM-2 CN2 700MB RH/GPH 12HR
FQVB07G9	VECTOR	PROG	RWM	2	700	36	N	VECTOR RWM-2 CN2 700MB RH/GPH 36HR
FQVB07GA	VECTOR	PROG	RWM	2	700	24	N	VECTOR RWM-2 CN2 700MB RH/GPH 24HR
FQVB08G4	VECTOR	PROG	RWM	2	850	12	N	VECTOR RWM-2 CN2 850MB RH/GPH 12HR
FQVB08G9	VECTOR	PROG	RWM	2	850	36	N	VECTOR RWM-2 CN2 850MB RH/GPH 36HR
FQVB08GA	VECTOR	PROG	RWM	2	850	24	N	VECTOR RWM-2 CN2 850MB RH/GPH 24HR
FSVB0SP4	VECTOR	PROG	RWM	2	SFC	12	N	VECTOR RWM-2 CN2 SFC SLP/RAA 12HR
FSVB0SP9	VECTOR	PROG	RWM	2	SFC	36	N	VECTOR RWM-2 CN2 SFC SLP/RAA 36HR
FSVB0SPA	VECTOR	PROG	RWM	2	SFC	24	N	VECTOR RWM-2 CN2 SFC SLP/RAA 24HR
FYVB0SX4	VECTOR	PROG	RWM	2	SFC	12	N	VECTOR RWM-2 CN2 INV HGT/TMP 12HR
FYVB0SX9	VECTOR	PROG	RWM	2	SFC	36	N	VECTOR RWM-2 CN2 INV HGT/TMP 36HR
FYVB0SXA	VECTOR	PROG	RWM	2	SFC	24	N	VECTOR RWM-2 CN2 INV HGT/TMP 24HR
AHVC0T90	VECTOR	ANAL	RWM	3	MULT	ANAL	N	VECTOR RWM-3 CN3 1000-500MB THKNS ANAL
AHVC0Z90	VECTOR	ANAL	RWM	3	MULT	ANAL	N	VECTOR RWM-3 CN3 1000-850MB THKNS ANAL
ASVC0SP0	VECTOR	ANAL	RWM	3	SFC	ANAL	N	VECTOR RWM-3 CN3 SFC SLP/RAA ANAL
AUVC00G0	VECTOR	ANAL	RWM	3	1000	ANAL	N	VECTOR RWM-3 CN3 1000MB RH/GPH ANAL
AUVC03G0	VECTOR	ANAL	RWM	3	300	ANAL	N	VECTOR RWM-3 CN3 300MB RH/GPH ANAL
AUVC05G0	VECTOR	ANAL	RWM	3	500	ANAL	N	VECTOR RWM-3 CN3 500MB RH/GPH/VRT ANAL
AUVC07G0	VECTOR	ANAL	RWM	3	700	ANAL	N	VECTOR RWM-3 CN3 700MB RH/GPH ANAL
AUVC08G0	VECTOR	ANAL	RWM	3	850	ANAL	N	VECTOR RWM-3 CN3 850MB RH/GPH ANAL
AWVC0090	VECTOR	ANAL	RWM	3	1000	ANAL	N	VECTOR RWM-3 CN3 1000MB WND/TMP ANAL
AWVC0390	VECTOR	ANAL	RWM	3	300	ANAL	N	VECTOR RWM-3 CN3 300MB WND/TMP ANAL
AWVC0590	VECTOR	ANAL	RWM	3	500	ANAL	N	VECTOR RWM-3 CN3 500MB WND/TMP ANAL
AWVC0790	VECTOR	ANAL	RWM	3	700	ANAL	N	VECTOR RWM-3 CN3 700MB WND/TMP ANAL
AWVC0890	VECTOR	ANAL	RWM	3	850	ANAL	N	VECTOR RWM-3 CN3 850MB WND/TMP ANAL
AWVC0S90	VECTOR	ANAL	RWM	3	SFC	ANAL	N	VECTOR RWM-3 CN3 SEC WND/TMP ANAL
FDVC0094	VECTOR	PROG	RWM	3	1000	12	N	VECTOR RWM-3 CN3 1000MB WND/TMP 12HR
FDVC0099	VECTOR	PROG	RWM	3	1000	36	N	VECTOR RWM-3 CN3 1000MB WND/TMP 36HR
FDVC009A	VECTOR	PROG	RWM	3	1000	24	N	VECTOR RWM-3 CN3 1000MB WND/TMP 24HR
FDVC0394	VECTOR	PROG	RWM	3	300	12	N	VECTOR RWM-3 CN3 300MB WND/TMP 12HR
FDVC0399	VECTOR	PROG	RWM	3	300	36	N	VECTOR RWM-3 CN3 300MB WND/TMP 36HR
FDVC039A	VECTOR	PROG	RWM	3	300	24	N	VECTOR RWM-3 CN3 300MB WND/TMP 24HR
FDVC0594	VECTOR	PROG	RWM	3	500	12	N	VECTOR RWM-3 CN3 500MB WND/TMP 12HR
FDVC0599	VECTOR	PROG	RWM	3	500	36	N	VECTOR RWM-3 CN3 500MB WND/TMP 36HR

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NAME	FORMAT	TYPE	TYPE2	LOCATION	LVL	HOOR	HEM	DESCRIPTION
FDVC059A	VECTOR	PROG	RWM	3	500	24	N	VECTOR RWM-3 CN3 500MB WND/TMP 24HR
FDVC0794	VECTOR	PROG	RWM	3	700	12	N	VECTOR RWM-3 CN3 700MB WND/TMP 12HR
FDVC0799	VECTOR	PROG	RWM	3	700	36	N	VECTOR RWM-3 CN3 700MB WND/TMP 36HR
FDVC079A	VECTOR	PROG	RWM	3	700	24	N	VECTOR RWM-3 CN3 700MB WND/TMP 24HR
FDVC0894	VECTOR	PROG	RWM	3	850	12	N	VECTOR RWM-3 CN3 850MB WND/TMP 12HR
FDVC0899	VECTOR	PROG	RWM	3	850	36	N	VECTOR RWM-3 CN3 850MB WND/TMP 36HR
FDVC089A	VECTOR	PROG	RWM	3	850	24	N	VECTOR RWM-3 CN3 850MB WND/TMP 24HR
FDVC0S94	VECTOR	PROG	RWM	3	SFC	12	N	VECTOR RWM-3 CN3 SFC WND/TMP 12HR
FDVC0S99	VECTOR	PROG	RWM	3	SFC	36	N	VECTOR RWM-3 CN3 SFC WND/TMP 36HR
FDVC0S9A	VECTOR	PROG	RWM	3	SFC	24	N	VECTOR RWM-3 CN3 SFC WND/TMP 24HR
FHVC0T94	VECTOR	PROG	RWM	3	MULT	12	N	VECTOR RWM-3 CN3 1000-500MB THKNS 12HR
FHVC0T99	VECTOR	PROG	RWM	3	MULT	36	N	VECTOR RWM-3 CN3 1000-500MB THKNS 36HR
FHVC0T9A	VECTOR	PROG	RWM	3	MULT	24	N	VECTOR RWM-3 CN3 1000-500MB THKNS 24HR
FHVC0Z94	VECTOR	PROG	RWM	3	MULT	12	N	VECTOR RWM-3 CN3 1000-850MB THKNS 12HR
FHVC0Z99	VECTOR	PROG	RWM	3	MULT	36	N	VECTOR RWM-3 CN3 1000-850MB THKNS 36HR
FHVC0Z9A	VECTOR	PROG	RWM	3	MULT	24	N	VECTOR RWM-3 CN3 1000-850MB THKNS 24HR
FQVC00G4	VECTOR	PROG	RWM	3	1000	12	N	VECTOR RWM-3 CN3 1000MB RH/GPH 12HR
FQVC00G9	VECTOR	PROG	RWM	3	1000	36	N	VECTOR RWM-3 CN3 1000MB RH/GPH 36HR
FQVC00GA	VECTOR	PROG	RWM	3	1000	24	N	VECTOR RWM-3 CN3 1000MB RH/GPH 24HR
FQVC03G4	VECTOR	PROG	RWM	3	300	12	N	VECTOR RWM-3 CN3 300MB RH/GPH 12HR
FQVC03G9	VECTOR	PROG	RWM	3	300	36	N	VECTOR RWM-3 CN3 300MB RH/GPH 36HR
FQVC03GA	VECTOR	PROG	RWM	3	300	24	N	VECTOR RWM-3 CN3 300MB RH/GPH 24HR
FQVC05G4	VECTOR	PROG	RWM	3	500	12	N	VECTOR RWM-3 CN3 500MB RH/GPH/VRT 12HR
FQVC05G9	VECTOR	PROG	RWM	3	500	36	N	VECTOR RWM-3 CN3 500MB RH/GPH/VRT 36HR
FQVC05GA	VECTOR	PROG	RWM	3	500	24	N	VECTOR RWM-3 CN3 500MB RH/GPH/VRT 24HR
FQVC07G4	VECTOR	PROG	RWM	3	700	12	N	VECTOR RWM-3 CN3 700MB RH/GPH 12HR
FQVC07G9	VECTOR	PROG	RWM	3	700	36	N	VECTOR RWM-3 CN3 700MB RH/GPH 36HR
FQVC07GA	VECTOR	PROG	RWM	3	700	24	N	VECTOR RWM-3 CN3 700MB RH/GPH 24HR
FQVC08G4	VECTOR	PROG	RWM	3	850	12	N	VECTOR RWM-3 CN3 850MB RH/GPH 12HR
FQVC08G9	VECTOR	PROG	RWM	3	850	36	N	VECTOR RWM-3 CN3 850MB RH/GPH 36HR
FQVC08GA	VECTOR	PROG	RWM	3	850	24	N	VECTOR RWM-3 CN3 850MB RH/GPH 24HR
FSVC0SP4	VECTOR	PROG	RWM	3	SFC	12	N	VECTOR RWM-3 CN3 SFC SLE/RRR 12HR
FSVC0SP9	VECTOR	PROG	RWM	3	SFC	36	N	VECTOR RWM-3 CN3 SFC SLE/RRR 36HR
FSVC0SPA	VECTOR	PROG	RWM	3	SFC	24	N	VECTOR RWM-3 CN3 SFC SLE/RRR 24HR
AHVD0T90	VECTOR	ANAL	RWM	4	MULT	ANAL	N	VECTOR RWM-4 CN4 1000-500MB THKNS ANAL
AHVD0Z90	VECTOR	ANAL	RWM	4	MULT	ANAL	N	VECTOR RWM-4 CN4 1000-500MB THKNS ANAL
ASVD0SP0	VECTOR	ANAL	RWM	4	SFC	ANAL	N	VECTOR RWM-4 CN4 SFC SLE/RRR ANAL
AUVD00G0	VECTOR	ANAL	RWM	4	1000	ANAL	N	VECTOR RWM-4 CN4 1000MB RH/GPH ANAL
AUVD03G0	VECTOR	ANAL	RWM	4	300	ANAL	N	VECTOR RWM-4 CN4 300MB RH/GPH ANAL
AUVD05G0	VECTOR	ANAL	RWM	4	500	ANAL	N	VECTOR RWM-4 CN4 500MB RH/GPH/VRT ANAL
AUVD07G0	VECTOR	ANAL	RWM	4	700	ANAL	N	VECTOR RWM-4 CN4 700MB RH/GPH ANAL
AUVD08G0	VECTOR	ANAL	RWM	4	850	ANAL	N	VECTOR RWM-4 CN4 850MB RH/GPH ANAL
AWVD0090	VECTOR	ANAL	RWM	4	1000	ANAL	N	VECTOR RWM-4 CN4 1000MB WND/TMP ANAL
AWVD0390	VECTOR	ANAL	RWM	4	300	ANAL	N	VECTOR RWM-4 CN4 300MB WND/TMP ANAL
AWVD0590	VECTOR	ANAL	RWM	4	500	ANAL	N	VECTOR RWM-4 CN4 500MB WND/TMP ANAL
AWVD0790	VECTOR	ANAL	RWM	4	700	ANAL	N	VECTOR RWM-4 CN4 700MB WND/TMP ANAL
AWVD0890	VECTOR	ANAL	RWM	4	850	ANAL	N	VECTOR RWM-4 CN4 850MB WND/TMP ANAL
AWVD0S90	VECTOR	ANAL	RWM	4	SFC	ANAL	N	VECTOR RWM-4 CN4 SFC WND/TMP ANAL
FDVD0094	VECTOR	PROG	RWM	4	1000	12	N	VECTOR RWM-4 CN4 1000MB WND/TMP 12HR
FDVD0099	VECTOR	PROG	RWM	4	1000	36	N	VECTOR RWM-4 CN4 1000MB WND/TMP 36HR
FDVD009A	VECTOR	PROG	RWM	4	1000	24	N	VECTOR RWM-4 CN4 1000MB WND/TMP 24HR
FDVD0394	VECTOR	PROG	RWM	4	300	12	N	VECTOR RWM-4 CN4 300MB WND/TMP 12HR
FDVD0399	VECTOR	PROG	RWM	4	300	36	N	VECTOR RWM-4 CN4 300MB WND/TMP 36HR
FDVD039A	VECTOR	PROG	RWM	4	300	24	N	VECTOR RWM-4 CN4 300MB WND/TMP 24HR
FDVD0594	VECTOR	PROG	RWM	4	500	12	N	VECTOR RWM-4 CN4 500MB WND/TMP 12HR
FDVD0599	VECTOR	PROG	RWM	4	500	36	N	VECTOR RWM-4 CN4 500MB WND/TMP 36HR
FDVD059A	VECTOR	PROG	RWM	4	500	24	N	VECTOR RWM-4 CN4 500MB WND/TMP 24HR
FDVD0794	VECTOR	PROG	RWM	4	700	12	N	VECTOR RWM-4 CN4 700MB WND/TMP 12HR
FDVD0799	VECTOR	PROG	RWM	4	700	36	N	VECTOR RWM-4 CN4 700MB WND/TMP 36HR
FDVD079A	VECTOR	PROG	RWM	4	700	24	N	VECTOR RWM-4 CN4 700MB WND/TMP 24HR
FDVD0894	VECTOR	PROG	RWM	4	850	12	N	VECTOR RWM-4 CN4 850MB WND/TMP 12HR
FDVD0899	VECTOR	PROG	RWM	4	850	36	N	VECTOR RWM-4 CN4 850MB WND/TMP 36HR
FDVD089A	VECTOR	PROG	RWM	4	850	24	N	VECTOR RWM-4 CN4 850MB WND/TMP 24HR
FDVD0S94	VECTOR	PROG	RWM	4	SFC	12	N	VECTOR RWM-4 CN4 SFC WND/TMP 12HR
FDVD0S99	VECTOR	PROG	RWM	4	SFC	36	N	VECTOR RWM-4 CN4 SFC WND/TMP 36HR
FDVD0S9A	VECTOR	PROG	RWM	4	SFC	24	N	VECTOR RWM-4 CN4 SFC WND/TMP 24HR
FHVD0T94	VECTOR	PROG	RWM	4	MULT	12	N	VECTOR RWM-4 CN4 1000-500MB THKNS 12HR
FHVD0T99	VECTOR	PROG	RWM	4	MULT	36	N	VECTOR RWM-4 CN4 1000-500MB THKNS 36HR
FHVD0T9A	VECTOR	PROG	RWM	4	MULT	24	N	VECTOR RWM-4 CN4 1000-500MB THKNS 24HR
FHVD0Z94	VECTOR	PROG	RWM	4	MULT	12	N	VECTOR RWM-4 CN4 1000-850MB THKNS 12HR
FHVD0Z99	VECTOR	PROG	RWM	4	MULT	36	N	VECTOR RWM-4 CN4 1000-850MB THKNS 36HR
FHVD0Z9A	VECTOR	PROG	RWM	4	MULT	24	N	VECTOR RWM-4 CN4 1000-850MB THKNS 24HR
FQVD00G4	VECTOR	PROG	RWM	4	1000	12	N	VECTOR RWM-4 CN4 1000MB RH/GPH 12HR
FQVD00G9	VECTOR	PROG	RWM	4	1000	36	N	VECTOR RWM-4 CN4 1000MB RH/GPH 36HR
FQVD00GA	VECTOR	PROG	RWM	4	1000	24	N	VECTOR RWM-4 CN4 1000MB RH/GPH 24HR
FQVD03G4	VECTOR	PROG	RWM	4	300	12	N	VECTOR RWM-4 CN4 300MB RH/GPH 12HR
FQVD03G9	VECTOR	PROG	RWM	4	300	36	N	VECTOR RWM-4 CN4 300MB RH/GPH 36HR

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NAME	FORMAT	TYPE	TYPE2	LOCATION	LVL	HOOR	HEM	DESCRIPTION
FQVD03GA	VECTOR	PROG	RWM	4	300	24	N	VECTOR RWM-4 CN4 300MB RH/GPH 24HR
FQVD05G4	VECTOR	PROG	RWM	4	500	12	N	VECTOR RWM-4 CN4 500MB RH/GPH/VRT 12HR
FQVD05G9	VECTOR	PROG	RWM	4	500	36	N	VECTOR RWM-4 CN4 500MB RH/GPH/VRT 36HR
FQVD05GA	VECTOR	PROG	RWM	4	500	24	N	VECTOR RWM-4 CN4 500MB RH/GPH/VRT 24HR
FQVD07G4	VECTOR	PROG	RWM	4	700	12	N	VECTOR RWM-4 CN4 700MB RH/GPH 12HR
FQVD07G9	VECTOR	PROG	RWM	4	700	36	N	VECTOR RWM-4 CN4 700MB RH/GPH 36HR
FQVD07GA	VECTOR	PROG	RWM	4	700	24	N	VECTOR RWM-4 CN4 700MB RH/GPH 24HR
FQVD08G4	VECTOR	PROG	RWM	4	850	12	N	VECTOR RWM-4 CN4 850MB RH/GPH 12HR
FQVD08G9	VECTOR	PROG	RWM	4	850	36	N	VECTOR RWM-4 CN4 850MB RH/GPH 36HR
FQVD08GA	VECTOR	PROG	RWM	4	850	24	N	VECTOR RWM-4 CN4 850MB RH/GPH 24HR
FSVD0SP4	VECTOR	PROG	RWM	4	SFC	12	N	VECTOR RWM-4 CN4 SFC SLP/RA 12HR
FSVD0SP9	VECTOR	PROG	RWM	4	SFC	36	N	VECTOR RWM-4 CN4 SFC SLP/RA 36HR
FSVD0SPA	VECTOR	PROG	RWM	4	SFC	24	N	VECTOR RWM-4 CN4 SFC SLP/RA 24HR
TROP	VECTOR	PROG	MAN	AFRICA	MULT	12	T	VECTOR 12HR ICG PROG
TROP	VECTOR	ANAL	MAN	AFRICA	SFC	ANAL	T	VECTOR FNTS/PRES CNTR ANAL
TROP	VECTOR	ANAL	MAN	AFRICA	MULT	ANAL	T	VECTOR TSTMS ANAL
TROP	VECTOR	PROG	MAN	AFRICA	MULT	24	T	VECTOR 24HR ICG PROG
TROP	VECTOR	PROG	MAN	AFRICA	MULT	24	T	VECTOR 24HR UPR LVL CLD PROG
TROP	VECTOR	PROG	MAN	AFRICA	SFC	24	T	VECTOR 24HR FNTS/PRES CNTR/SIG WX
TROP	VECTOR	PROG	MAN	AFRICA	MULT	24	T	VECTOR 24HR TURBC PROG
TROP	VECTOR	PROG	MAN	AFRICA	MULT	12	T	VECTOR 12HR TSTMS PROG
TROP	VECTOR	ANAL	MAN	AFRICA	MULT	ANAL	T	VECTOR TURBC ANAL
TROP	VECTOR	PROG	MAN	AFRICA	MULT	24	T	VECTOR 24HR TSTMS PROG
TROP	VECTOR	ANAL	MAN	AFRICA	MULT	ANAL	T	VECTOR ICG ANAL
TROP	VECTOR	PROG	MAN	AFRICA	MULT	12	T	VECTOR 12HR TURBC PROG
FANA1	VECTOR	PROG	MAN	CONUS	MULT	3	N	VECTOR ICG BLO 10K 04-16Z
FANA1	VECTOR	PROG	MAN	CONUS	MULT	3	N	VECTOR ICG BLO 10K 16-04Z
FANA1	VECTOR	PROG	MAN	CONUS	MULT	3	N	VECTOR ICG BLO 10K 10-22Z
FANA1	VECTOR	PROG	MAN	CONUS	MULT	3	N	VECTOR ICG BLO 10K 22-10Z
FANA2	VECTOR	PROG	MAN	CONUS	MULT	3	N	VECTOR TURBC BLO 10K 10-22Z
FANA2	VECTOR	PROG	MAN	CONUS	MULT	3	N	VECTOR TURBC BLO 10K 04-16Z
FANA2	VECTOR	PROG	MAN	CONUS	MULT	3	N	VECTOR TURBC BLO 10K 22-10Z
FANA2	VECTOR	PROG	MAN	CONUS	MULT	3	N	VECTOR TURBC BLO 10K 16-04Z
SBNA0S90	VECTOR	ANAL	MODEL	NORTH AM	SFC	ANAL	N	VECTOR RADAR SUM CONTRS/LABELS HH+35
WWUS	VECTOR	PROG	MAN	NORTH AM	SFC	3	N	VECTOR US MWA VER-A 04-16Z
WWUS	VECTOR	PROG	MAN	NORTH AM	SFC	3	N	VECTOR US MWA VER-C 16-04Z
WWUS	VECTOR	PROG	MAN	NORTH AM	SFC	3	N	VECTOR US MWA VER-D 22-10Z
WWUS	VECTOR	PROG	MAN	NORTH AM	SFC	3	N	VECTOR US MWA VER-B 10-22Z
WWUS12	VECTOR	PROG	MAN	NORTH AM	SFC	18	N	VECTOR US MWA OUTLOOK 22-12Z
WWUS12	VECTOR	PROG	MAN	NORTH AM	SFC	18	N	VECTOR US MWA OUTLOOK 10-24Z
AHNH0X90	VECTOR	ANAL	MODEL	NORTH HEM	MULT	ANAL	N	VECTOR NH 1000-500MB THKNS ANAL
ASNH	VECTOR	ANAL	MAN	NORTH HEM	SFC	ANAL	N	VECTOR NH PRELIMINARY SFC ANAL
AUNH0290	VECTOR	ANAL	MODEL	NORTH HEM	200	ANAL	N	VECTOR NH 200MB PLOT/GPH/TMP/ISOTACH
AUNH0390	VECTOR	ANAL	MODEL	NORTH HEM	300	ANAL	N	VECTOR NH 300MB PLOT/GPH/TMP/ISOTACH
AUNH0790	VECTOR	ANAL	MODEL	NORTH HEM	700	ANAL	N	VECTOR NH 700MB PLOT/GPH/TMP/DPD
AUNH0890	VECTOR	ANAL	MODEL	NORTH HEM	850	ANAL	N	VECTOR NH 850MB PLOT/GPH/TMP/DPD
AVNH0590	VECTOR	ANAL	MODEL	NORTH HEM	500	ANAL	N	VECTOR NH 500MB PLOT/GPH/VRT/VRTA
AWN0590	VECTOR	ANAL	MODEL	NORTH HEM	500	ANAL	N	VECTOR NH 500MB PLOT/GPH/TMP/ISOTACH
AWN0790	VECTOR	ANAL	MODEL	NORTH HEM	700	ANAL	N	VECTOR NH 700MB ISOTACH/OMG ANAL
AWN0890	VECTOR	ANAL	MODEL	NORTH HEM	850	ANAL	N	VECTOR NH 850MB ISOTACH ANAL
AXNH0S90	VECTOR	ANAL	MODEL	NORTH HEM	SFC	ANAL	N	VECTOR NH SFC PLOT/TMP/PRS/DPT ANAL
FANH2A	VECTOR	PROG	MAN	NORTH HEM	MULT	24	N	VECTOR NH 24HR TSTMS/ICG 21-12Z
FANH2A	VECTOR	PROG	MAN	NORTH HEM	MULT	24	N	VECTOR NH 24HR TSTMS/ICG 09-24Z
FANH2B	VECTOR	PROG	MAN	NORTH HEM	MULT	24	N	VECTOR NH 24HR TURBC 21-12Z
FANH2B	VECTOR	PROG	MAN	NORTH HEM	MULT	24	N	VECTOR NH 24HR TURBC 09-24Z
FANH3A	VECTOR	PROG	MAN	NORTH HEM	MULT	36	N	VECTOR NH 36HR TSTMS/ICG 00-12Z
FANH3A	VECTOR	PROG	MAN	NORTH HEM	MULT	36	N	VECTOR NH 36HR TSTMS/ICG 12-24Z
FANH3B	VECTOR	PROG	MAN	NORTH HEM	MULT	36	N	VECTOR NH 36HR TURBC 00-12Z
FANH3B	VECTOR	PROG	MAN	NORTH HEM	MULT	36	N	VECTOR NH 36HR TURBC 12-24Z
FDNH0294	VECTOR	PROG	MODEL	NORTH HEM	200	12	N	VECTOR NH 200MB ISOTACH/WND 12HR
FDNH0299	VECTOR	PROG	MODEL	NORTH HEM	200	36	N	VECTOR NH 200MB ISOTACH/WND 36HR
FDNH029A	VECTOR	PROG	MODEL	NORTH HEM	200	24	N	VECTOR NH 200MB ISOTACH/WND 24HR
FDNH029B	VECTOR	PROG	MODEL	NORTH HEM	200	48	N	VECTOR NH 200MB ISOTACH/WND 48HR
FDNH0394	VECTOR	PROG	MODEL	NORTH HEM	300	12	N	VECTOR NH 300MB ISOTACH/WND 12HR
FDNH0399	VECTOR	PROG	MODEL	NORTH HEM	300	36	N	VECTOR NH 300MB ISOTACH/WND 36HR
FDNH039A	VECTOR	PROG	MODEL	NORTH HEM	300	24	N	VECTOR NH 300MB ISOTACH/WND 24HR
FDNH039B	VECTOR	PROG	MODEL	NORTH HEM	300	48	N	VECTOR NH 300MB ISOTACH/WND 48HR
FDNH0594	VECTOR	PROG	MODEL	NORTH HEM	500	12	N	VECTOR NH 500MB ISOTACH/WND 12HR
FDNH0599	VECTOR	PROG	MODEL	NORTH HEM	500	36	N	VECTOR NH 500MB ISOTACH/WND 36HR
FDNH059A	VECTOR	PROG	MODEL	NORTH HEM	500	24	N	VECTOR NH 500MB ISOTACH/WND 24HR
FDNH059B	VECTOR	PROG	MODEL	NORTH HEM	500	48	N	VECTOR NH 500MB ISOTACH/WND 48HR
FDNH0794	VECTOR	PROG	MODEL	NORTH HEM	700	12	N	VECTOR NH 700MB ISOTACH/OMG/WND 12HR
FDNH0799	VECTOR	PROG	MODEL	NORTH HEM	700	36	N	VECTOR NH 700MB ISOTACH/OMG/WND 36HR
FDNH079A	VECTOR	PROG	MODEL	NORTH HEM	700	24	N	VECTOR NH 700MB ISOTACH/OMG/WND 24HR
FDNH079B	VECTOR	PROG	MODEL	NORTH HEM	700	48	N	VECTOR NH 700MB ISOTACH/OMG/WND 48HR
FDNH0894	VECTOR	PROG	MODEL	NORTH HEM	850	12	N	VECTOR NH 850MB ISOTACH/WND 12HR
FDNH0899	VECTOR	PROG	MODEL	NORTH HEM	850	36	N	VECTOR NH 850MB ISOTACH/WND 36HR

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NAME	FORMAT	TYPE	TYPE2	LOCATION	LVL	HOOR	HEM	DESCRIPTION
FDNH089A	VECTOR	PROG	MODEL	NORTH_HEM	850	24	N	VECTOR NH 850MB ISOTACH/WND 24HR
FDNH089B	VECTOR	PROG	MODEL	NORTH_HEM	850	48	N	VECTOR NH 850MB ISOTACH/WND 48HR
FENH66	VECTOR	PROG	MODEL	NORTH_HEM	MULT	72	N	VECTOR MRF 72HR 1000 GPH/1000-500MB THK
FENH67	VECTOR	PROG	MODEL	NORTH_HEM	MULT	96	N	VECTOR MRF 96HR 1000 GPH/1000-500MB THK
FENH68	VECTOR	PROG	MODEL	NORTH_HEM	MULT	120	N	VECTOR MRF 120HR 1000 GPH/1000-500MB THK
FENH69	VECTOR	PROG	MODEL	NORTH_HEM	MULT	144	N	VECTOR MRF 144HR 1000 GPH/1000-500MB THK
FENH70	VECTOR	PROG	MODEL	NORTH_HEM	MULT	168	N	VECTOR MRF 168HR 1000 GPH/1000-500MB THK
FENH71	VECTOR	PROG	MODEL	NORTH_HEM	MULT	192	N	VECTOR MRF 192HR 1000 GPH/1000-500MB THK
FENH72	VECTOR	PROG	MODEL	NORTH_HEM	MULT	216	N	VECTOR MRF 216HR 1000 GPH/1000-500MB THK
FENH73	VECTOR	PROG	MODEL	NORTH_HEM	MULT	240	N	VECTOR MRF 240HR 1000 GPH/1000-500MB THK
FHNH2	VECTOR	PROG	MAN	NORTH_HEM	MULT	24	N	VECTOR NH 24HR LOW LVL CLDS/PRECIP
FHNH3	VECTOR	PROG	MAN	NORTH_HEM	MULT	36	N	VECTOR NH 36HR LOW LVL CLDS/PRECIP
FQNH0294	VECTOR	PROG	MODEL	NORTH_HEM	200	12	N	VECTOR NH 200MB GPH/TMP 12HR
FQNH0299	VECTOR	PROG	MODEL	NORTH_HEM	200	36	N	VECTOR NH 200MB GPH/TMP 36HR
FQNH029A	VECTOR	PROG	MODEL	NORTH_HEM	200	24	N	VECTOR NH 200MB GPH/TMP 24HR
FQNH029B	VECTOR	PROG	MODEL	NORTH_HEM	200	48	N	VECTOR NH 200MB GPH/TMP 48HR
FQNH0394	VECTOR	PROG	MODEL	NORTH_HEM	300	12	N	VECTOR NH 300MB GPH/TMP/DPD 12HR
FQNH0399	VECTOR	PROG	MODEL	NORTH_HEM	300	36	N	VECTOR NH 300MB GPH/TMP/DPD 36HR
FQNH039A	VECTOR	PROG	MODEL	NORTH_HEM	300	24	N	VECTOR NH 300MB GPH/TMP/DPD 24HR
FQNH039B	VECTOR	PROG	MODEL	NORTH_HEM	300	48	N	VECTOR NH 300MB GPH/TMP/DPD 48HR
FQNH0594	VECTOR	PROG	MODEL	NORTH_HEM	500	12	N	VECTOR NH 500MB GPH/TMP/DPD 12HR
FQNH0599	VECTOR	PROG	MODEL	NORTH_HEM	500	36	N	VECTOR NH 500MB GPH/TMP/DPD 36HR
FQNH059A	VECTOR	PROG	MODEL	NORTH_HEM	500	24	N	VECTOR NH 500MB GPH/TMP/DPD 24HR
FQNH059B	VECTOR	PROG	MODEL	NORTH_HEM	500	48	N	VECTOR NH 500MB GPH/TMP/DPD 48HR
FQNH0794	VECTOR	PROG	MODEL	NORTH_HEM	700	12	N	VECTOR NH 700MB GPH/TMP/DPD 12HR
FQNH0799	VECTOR	PROG	MODEL	NORTH_HEM	700	36	N	VECTOR NH 700MB GPH/TMP/DPD 36HR
FQNH079A	VECTOR	PROG	MODEL	NORTH_HEM	700	24	N	VECTOR NH 700MB GPH/TMP/DPD 24HR
FQNH079B	VECTOR	PROG	MODEL	NORTH_HEM	700	48	N	VECTOR NH 700MB GPH/TMP/DPD 48HR
FQNH0894	VECTOR	PROG	MODEL	NORTH_HEM	850	12	N	VECTOR NH 850MB GPH/TMP/DPD 12HR
FQNH0899	VECTOR	PROG	MODEL	NORTH_HEM	850	36	N	VECTOR NH 850MB GPH/TMP/DPD 36HR
FQNH089A	VECTOR	PROG	MODEL	NORTH_HEM	850	24	N	VECTOR NH 850MB GPH/TMP/DPD 24HR
FQNH089B	VECTOR	PROG	MODEL	NORTH_HEM	850	48	N	VECTOR NH 850MB GPH/TMP/DPD 48HR
FQNH0S94	VECTOR	PROG	MODEL	NORTH_HEM	SFC	12	N	VECTOR NH SFC PRS/TMP/DPT 12HR
FQNH0S99	VECTOR	PROG	MODEL	NORTH_HEM	SFC	36	N	VECTOR NH SFC PRS/TMP/DPT 36HR
FQNH0S9A	VECTOR	PROG	MODEL	NORTH_HEM	SFC	24	N	VECTOR NH SFC PRS/TMP/DPT 24HR
FQNH0S9B	VECTOR	PROG	MODEL	NORTH_HEM	SFC	48	N	VECTOR NH SFC PRS/TMP/DPT 48HR
FSNH2	VECTOR	PROG	MAN	NORTH_HEM	SFC	24	N	VECTOR NH 24HR SFC PROG
FSNH3	VECTOR	PROG	MAN	NORTH_HEM	SFC	36	N	VECTOR NH 36HR SFC PROG
FUNH2	VECTOR	PROG	MAN	NORTH_HEM	MULT	24	N	VECTOR NH 24HR UPR LVL CLD PROG
FUNH3	VECTOR	PROG	MAN	NORTH_HEM	MULT	36	N	VECTOR NH 36HR UPR LVL CLD PROG
FVNH0594	VECTOR	PROG	MODEL	NORTH_HEM	500	12	N	VECTOR NH 500MB GPH/VRT/VRTA 12HR
FVNH0599	VECTOR	PROG	MODEL	NORTH_HEM	500	36	N	VECTOR NH 500MB GPH/VRT/VRTA 36HR
FVNH059A	VECTOR	PROG	MODEL	NORTH_HEM	500	24	N	VECTOR NH 500MB GPH/VRT/VRTA 24HR
FVNH059B	VECTOR	PROG	MODEL	NORTH_HEM	500	48	N	VECTOR NH 500MB GPH/VRT/VRTA 48HR
FXNH0X94	VECTOR	PROG	MODEL	NORTH_HEM	MULT	12	N	VECTOR NH 1000-500MB THKNS 12HR
FXNH0X99	VECTOR	PROG	MODEL	NORTH_HEM	MULT	36	N	VECTOR NH 1000-500MB THKNS 36HR
FXNH0X9A	VECTOR	PROG	MODEL	NORTH_HEM	MULT	24	N	VECTOR NH 1000-500MB THKNS 24HR
FXNH0X9B	VECTOR	PROG	MODEL	NORTH_HEM	MULT	48	N	VECTOR NH 1000-500MB THKNS 48HR
AHSH0X90	VECTOR	ANAL	MODEL	SOUTH_HEM	MULT	ANAL	S	VECTOR SH 1000-500MB THKNS ANAL
AUSH0290	VECTOR	ANAL	MODEL	SOUTH_HEM	200	ANAL	S	VECTOR SH 200MB PLOT/GPH/TMP/ISOTACH
AUSH0390	VECTOR	ANAL	MODEL	SOUTH_HEM	300	ANAL	S	VECTOR SH 300MB PLOT/GPH/TMP/ISOTACH
AUSH0790	VECTOR	ANAL	MODEL	SOUTH_HEM	700	ANAL	S	VECTOR SH 700MB PLOT/GPH/TMP/DPD
AVSH0890	VECTOR	ANAL	MODEL	SOUTH_HEM	850	ANAL	S	VECTOR SH 850MB PLOT/GPH/TMP/DPD
AVSH0590	VECTOR	ANAL	MODEL	SOUTH_HEM	500	ANAL	S	VECTOR SH 500MB PLOT/GPH/VRT/VRTA
AWSH0590	VECTOR	ANAL	MODEL	SOUTH_HEM	500	ANAL	S	VECTOR SH 500MB PLOT/GPH/TMP/ISOTACH
AWSH0790	VECTOR	ANAL	MODEL	SOUTH_HEM	700	ANAL	S	VECTOR SH 700MB ISOTACH/OMG ANAL
AWSH0890	VECTOR	ANAL	MODEL	SOUTH_HEM	850	ANAL	S	VECTOR SH 850MB ISOTACH ANAL
AXSH0S90	VECTOR	ANAL	MODEL	SOUTH_HEM	SFC	ANAL	S	VECTOR SH SFC PLOT/TMP/PRS/DPT
FDSH0294	VECTOR	PROG	MODEL	SOUTH_HEM	200	12	S	VECTOR SH 200MB ISOTACH/WND 12HR
FDSH0299	VECTOR	PROG	MODEL	SOUTH_HEM	200	36	S	VECTOR SH 200MB ISOTACH/WND 36HR
FDSH029A	VECTOR	PROG	MODEL	SOUTH_HEM	200	24	S	VECTOR SH 200MB ISOTACH/WND 24HR
FDSH029B	VECTOR	PROG	MODEL	SOUTH_HEM	200	48	S	VECTOR SH 200MB ISOTACH/WND 48HR
FDSH0394	VECTOR	PROG	MODEL	SOUTH_HEM	300	12	S	VECTOR SH 300MB ISOTACH/WND 12HR
FDSH0399	VECTOR	PROG	MODEL	SOUTH_HEM	300	36	S	VECTOR SH 300MB ISOTACH/WND 36HR
FDSH039A	VECTOR	PROG	MODEL	SOUTH_HEM	300	24	S	VECTOR SH 300MB ISOTACH/WND 24HR
FDSH039B	VECTOR	PROG	MODEL	SOUTH_HEM	300	48	S	VECTOR SH 300MB ISOTACH/WND 48HR
FDSH0594	VECTOR	PROG	MODEL	SOUTH_HEM	500	12	S	VECTOR SH 500MB ISOTACH/WND 12HR
FDSH0599	VECTOR	PROG	MODEL	SOUTH_HEM	500	36	S	VECTOR SH 500MB ISOTACH/WND 36HR
FDSH059A	VECTOR	PROG	MODEL	SOUTH_HEM	500	24	S	VECTOR SH 500MB ISOTACH/WND 24HR
FDSH059B	VECTOR	PROG	MODEL	SOUTH_HEM	500	48	S	VECTOR SH 500MB ISOTACH/WND 48HR
FDSH0794	VECTOR	PROG	MODEL	SOUTH_HEM	700	12	S	VECTOR SH 700MB ISOTACH/OMG/WND 12HR
FDSH0799	VECTOR	PROG	MODEL	SOUTH_HEM	700	36	S	VECTOR SH 700MB ISOTACH/OMG/WND 36HR
FDSH079A	VECTOR	PROG	MODEL	SOUTH_HEM	700	24	S	VECTOR SH 700MB ISOTACH/OMG/WND 24HR
FDSH079B	VECTOR	PROG	MODEL	SOUTH_HEM	700	48	S	VECTOR SH 700MB ISOTACH/OMG/WND 48HR
FDSH0894	VECTOR	PROG	MODEL	SOUTH_HEM	850	12	S	VECTOR SH 850MB ISOTACH/WND 12HR
FDSH0899	VECTOR	PROG	MODEL	SOUTH_HEM	850	36	S	VECTOR SH 850MB ISOTACH/WND 36HR
FDSH089A	VECTOR	PROG	MODEL	SOUTH_HEM	850	24	S	VECTOR SH 850MB ISOTACH/WND 24HR

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NAME	FORMAT	TYPE	TYPE2	LOCATION	LVL	HOOR	HEM	DESCRIPTION
FDSH089B	VECTOR	PROG	MODEL	SOUTH_HEM	850	48	S	VECTOR SH 850MB ISOTACH/WND 48HR
FQSH0294	VECTOR	PROG	MODEL	SOUTH_HEM	200	12	S	VECTOR SH 200MB GPH/TMP 12HR
FQSH0299	VECTOR	PROG	MODEL	SOUTH_HEM	200	36	S	VECTOR SH 200MB GPH/TMP 36HR
FQSH029A	VECTOR	PROG	MODEL	SOUTH_HEM	200	24	S	VECTOR SH 200MB GPH/TMP 24HR
FQSH029B	VECTOR	PROG	MODEL	SOUTH_HEM	200	48	S	VECTOR SH 200MB GPH/TMP 48HR
FQSH0394	VECTOR	PROG	MODEL	SOUTH_HEM	300	12	S	VECTOR SH 300MB GPH/TMP/DPD 12HR
FQSH0399	VECTOR	PROG	MODEL	SOUTH_HEM	300	36	S	VECTOR SH 300MB GPH/TMP/DPD 36HR
FQSH039A	VECTOR	PROG	MODEL	SOUTH_HEM	300	24	S	VECTOR SH 300MB GPH/TMP/DPD 24HR
FQSH039B	VECTOR	PROG	MODEL	SOUTH_HEM	300	48	S	VECTOR SH 300MB GPH/TMP/DPD 48HR
FQSH0594	VECTOR	PROG	MODEL	SOUTH_HEM	500	12	S	VECTOR SH 500MB GPH/TMP/DPD 12HR
FQSH0599	VECTOR	PROG	MODEL	SOUTH_HEM	500	36	S	VECTOR SH 500MB GPH/TMP/DPD 36HR
FQSH059A	VECTOR	PROG	MODEL	SOUTH_HEM	500	24	S	VECTOR SH 500MB GPH/TMP/DPD 24HR
FQSH059B	VECTOR	PROG	MODEL	SOUTH_HEM	500	48	S	VECTOR SH 500MB GPH/TMP/DPD 48HR
FQSH0794	VECTOR	PROG	MODEL	SOUTH_HEM	700	12	S	VECTOR SH 700MB GPH/TMP/DPD 12HR
FQSH0799	VECTOR	PROG	MODEL	SOUTH_HEM	700	36	S	VECTOR SH 700MB GPH/TMP/DPD 36HR
FQSH079A	VECTOR	PROG	MODEL	SOUTH_HEM	700	24	S	VECTOR SH 700MB GPH/TMP/DPD 24HR
FQSH079B	VECTOR	PROG	MODEL	SOUTH_HEM	700	48	S	VECTOR SH 700MB GPH/TMP/DPD 48HR
FQSH0894	VECTOR	PROG	MODEL	SOUTH_HEM	850	12	S	VECTOR SH 850MB GPH/TMP/DPD 12HR
FQSH0899	VECTOR	PROG	MODEL	SOUTH_HEM	850	36	S	VECTOR SH 850MB GPH/TMP/DPD 36HR
FQSH089A	VECTOR	PROG	MODEL	SOUTH_HEM	850	24	S	VECTOR SH 850MB GPH/TMP/DPD 24HR
FQSH089B	VECTOR	PROG	MODEL	SOUTH_HEM	850	48	S	VECTOR SH 850MB GPH/TMP/DPD 48HR
FQSH0S94	VECTOR	PROG	MODEL	SOUTH_HEM	SFC	12	S	VECTOR SH SFC PRS/TMP/DPT 12HR
FQSH0S99	VECTOR	PROG	MODEL	SOUTH_HEM	SFC	36	S	VECTOR SH SFC PRS/TMP/DPT 36HR
FQSH0S9A	VECTOR	PROG	MODEL	SOUTH_HEM	SFC	24	S	VECTOR SH SFC PRS/TMP/DPT 24HR
FQSH0S9B	VECTOR	PROG	MODEL	SOUTH_HEM	SFC	48	S	VECTOR SH SFC PRS/TMP/DPT 48HR
FVSH0594	VECTOR	PROG	MODEL	SOUTH_HEM	500	12	S	VECTOR SH 500MB GPH/VRT/VRTA 12HR
FVSH0599	VECTOR	PROG	MODEL	SOUTH_HEM	500	36	S	VECTOR SH 500MB GPH/VRT/VRTA 36HR
FVSH059A	VECTOR	PROG	MODEL	SOUTH_HEM	500	24	S	VECTOR SH 500MB GPH/VRT/VRTA 24HR
FVSH059B	VECTOR	PROG	MODEL	SOUTH_HEM	500	48	S	VECTOR SH 500MB GPH/VRT/VRTA 48HR
FXSH0X94	VECTOR	PROG	MODEL	SOUTH_HEM	MULT	12	S	VECTOR SH 1000-500MB THKNS 12HR
FXSH0X99	VECTOR	PROG	MODEL	SOUTH_HEM	MULT	36	S	VECTOR SH 1000-500MB THKNS 36HR
FXSH0X9A	VECTOR	PROG	MODEL	SOUTH_HEM	MULT	24	S	VECTOR SH 1000-500MB THKNS 24HR
FXSH0X9B	VECTOR	PROG	MODEL	SOUTH_HEM	MULT	48	S	VECTOR SH 1000-500MB THKNS 48HR
AHTR0X90	VECTOR	ANAL	MODEL	TROPICAL	MULT	ANAL	T	VECTOR TR 1000-500MB THKNS ANAL
AUTR0290	VECTOR	ANAL	MODEL	TROPICAL	200	ANAL	T	VECTOR TR 200MB PLOT/STR/TMP/ISOTACH
AUTR0390	VECTOR	ANAL	MODEL	TROPICAL	300	ANAL	T	VECTOR TR 300MB PLOT/STR/TMP/ISOTACH
AUTR0790	VECTOR	ANAL	MODEL	TROPICAL	700	ANAL	T	VECTOR TR 700MB PLOT/GPH/TMP/DPD
AUTR0890	VECTOR	ANAL	MODEL	TROPICAL	850	ANAL	T	VECTOR TR 850MB PLOT/STR/TMP/DPD
AWTR0590	VECTOR	ANAL	MODEL	TROPICAL	500	ANAL	T	VECTOR TR 500MB PLOT/GPH/VRT/VRTA
AWTR0590	VECTOR	ANAL	MODEL	TROPICAL	500	ANAL	T	VECTOR TR 500MB PLOT/STR/TMP/ISOTACH
AWTR0790	VECTOR	ANAL	MODEL	TROPICAL	700	ANAL	T	VECTOR TR 700MB ISOTACH/OMG ANAL
AWTR0890	VECTOR	ANAL	MODEL	TROPICAL	850	ANAL	T	VECTOR TR 850MB ISOTACH ANAL
AXTR0S90	VECTOR	ANAL	MODEL	TROPICAL	SFC	ANAL	T	VECTOR TR SFC PLOT/TMP/STR/DPT
FDTR0294	VECTOR	PROG	MODEL	TROPICAL	200	12	T	VECTOR TR 200MB ISOTACH/WND 12HR
FDTR0299	VECTOR	PROG	MODEL	TROPICAL	200	36	T	VECTOR TR 200MB ISOTACH/WND 36HR
FDTR029A	VECTOR	PROG	MODEL	TROPICAL	200	24	T	VECTOR TR 200MB ISOTACH/WND 24HR
FDTR029B	VECTOR	PROG	MODEL	TROPICAL	200	48	T	VECTOR TR 200MB ISOTACH/WND 48HR
FDTR0594	VECTOR	PROG	MODEL	TROPICAL	500	12	T	VECTOR TR 500MB ISOTACH/WND 12HR
FDTR0599	VECTOR	PROG	MODEL	TROPICAL	500	36	T	VECTOR TR 500MB ISOTACH/WND 36HR
FDTR059A	VECTOR	PROG	MODEL	TROPICAL	500	24	T	VECTOR TR 500MB ISOTACH/WND 24HR
FDTR059B	VECTOR	PROG	MODEL	TROPICAL	500	48	T	VECTOR TR 500MB ISOTACH/WND 48HR
FDTR0794	VECTOR	PROG	MODEL	TROPICAL	700	12	T	VECTOR TR 700MB ISOTACH/OMG/WND 12HR
FDTR0799	VECTOR	PROG	MODEL	TROPICAL	700	36	T	VECTOR TR 700MB ISOTACH/OMG/WND 36HR
FDTR079A	VECTOR	PROG	MODEL	TROPICAL	700	24	T	VECTOR TR 700MB ISOTACH/OMG/WND 24HR
FDTR079B	VECTOR	PROG	MODEL	TROPICAL	700	48	T	VECTOR TR 700MB ISOTACH/OMG/WND 48HR
FDTR0894	VECTOR	PROG	MODEL	TROPICAL	850	12	T	VECTOR TR 850MB ISOTACH/WND 12HR
FDTR0899	VECTOR	PROG	MODEL	TROPICAL	850	36	T	VECTOR TR 850MB ISOTACH/WND 36HR
FDTR089A	VECTOR	PROG	MODEL	TROPICAL	850	24	T	VECTOR TR 850MB ISOTACH/WND 24HR
FDTR089B	VECTOR	PROG	MODEL	TROPICAL	850	48	T	VECTOR TR 850MB ISOTACH/WND 48HR
FQTR0294	VECTOR	PROG	MODEL	TROPICAL	200	12	T	VECTOR TR 200MB STR/TMP 12HR
FQTR0299	VECTOR	PROG	MODEL	TROPICAL	200	36	T	VECTOR TR 200MB STR/TMP 36HR
FQTR029A	VECTOR	PROG	MODEL	TROPICAL	200	24	T	VECTOR TR 200MB STR/TMP 24HR
FQTR029B	VECTOR	PROG	MODEL	TROPICAL	200	48	T	VECTOR TR 200MB STR/TMP 48HR
FQTR0594	VECTOR	PROG	MODEL	TROPICAL	500	12	T	VECTOR TR 500MB STR/TMP/DPD 12HR
FQTR0599	VECTOR	PROG	MODEL	TROPICAL	500	36	T	VECTOR TR 500MB STR/TMP/DPD 36HR
FQTR059A	VECTOR	PROG	MODEL	TROPICAL	500	24	T	VECTOR TR 500MB STR/TMP/DPD 24HR
FQTR059B	VECTOR	PROG	MODEL	TROPICAL	500	48	T	VECTOR TR 500MB STR/TMP/DPD 48HR
FQTR0794	VECTOR	PROG	MODEL	TROPICAL	700	12	T	VECTOR TR 700MB GPH/TMP/DPD 12HR
FQTR0799	VECTOR	PROG	MODEL	TROPICAL	700	36	T	VECTOR TR 700MB GPH/TMP/DPD 36HR
FQTR079A	VECTOR	PROG	MODEL	TROPICAL	700	24	T	VECTOR TR 700MB GPH/TMP/DPD 24HR
FQTR079B	VECTOR	PROG	MODEL	TROPICAL	700	48	T	VECTOR TR 700MB GPH/TMP/DPD 48HR
FQTR0894	VECTOR	PROG	MODEL	TROPICAL	850	12	T	VECTOR TR 850MB STR/TMP/DPD 12HR
FQTR0899	VECTOR	PROG	MODEL	TROPICAL	850	36	T	VECTOR TR 850MB STR/TMP/DPD 36HR
FQTR089A	VECTOR	PROG	MODEL	TROPICAL	850	24	T	VECTOR TR 850MB STR/TMP/DPD 24HR
FQTR089B	VECTOR	PROG	MODEL	TROPICAL	850	48	T	VECTOR TR 850MB STR/TMP/DPD 48HR

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NAME	FORMAT	TYPE	TYPE2	LOCATION	LVL	HOURL	HEM	DESCRIPTION
FQTR0S94	VECTOR	PROG	MODEL	TROPICAL	SFC	12	T	VECTOR SFC TMP/DPT 1000MB STR 12HR
FQTR0S99	VECTOR	PROG	MODEL	TROPICAL	SFC	36	T	VECTOR SFC TMP/DPT 1000MB STR 36HR
FQTR0S9A	VECTOR	PROG	MODEL	TROPICAL	SFC	24	T	VECTOR SFC TMP/DPT 1000MB STR 24HR
FQTR0S9B	VECTOR	PROG	MODEL	TROPICAL	SFC	48	T	VECTOR SFC TMP/DPT 1000MB STR 48HR
FVTR0594	VECTOR	PROG	MODEL	TROPICAL	500	12	T	VECTOR TR 500MB GPH/VRT/VRTA 12HR
FVTR0599	VECTOR	PROG	MODEL	TROPICAL	500	36	T	VECTOR TR 500MB GPH/VRT/VRTA 36HR
FVTR059A	VECTOR	PROG	MODEL	TROPICAL	500	24	T	VECTOR TR 500MB GPH/VRT/VRTA 24HR
FVTR059B	VECTOR	PROG	MODEL	TROPICAL	500	48	T	VECTOR TR 500MB GPH/VRT/VRTA 48HR
FXTR0X94	VECTOR	PROG	MODEL	TROPICAL	MULT	12	T	VECTOR TR 1000-500MB THKNS 12HR
FXTR0X99	VECTOR	PROG	MODEL	TROPICAL	MULT	36	T	VECTOR TR 1000-500MB THKNS 36HR
FXTR0X9A	VECTOR	PROG	MODEL	TROPICAL	MULT	24	T	VECTOR TR 1000-500MB THKNS 24HR
FXTR0X9B	VECTOR	PROG	MODEL	TROPICAL	MULT	48	T	VECTOR TR 1000-500MB THKNS 48HR

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APPENDIX E

AFDIS MODEM INFORMATION

50.1 Purpose. This appendix presents illustrations of the PROCOMM PLUS Setup Utility Modem Options, General options, and ZMODEM options. Screen settings depicted in the figures within this appendix represent recommended settings. Other settings may work, but have not been tested.

50.2 PROCOMM PLUS Setup Utility (DOS v2.01) - Modem Command options. To reach this menu from the Setup Main menu, select the Modem Options submenu. The screen in figure 190 will be displayed.

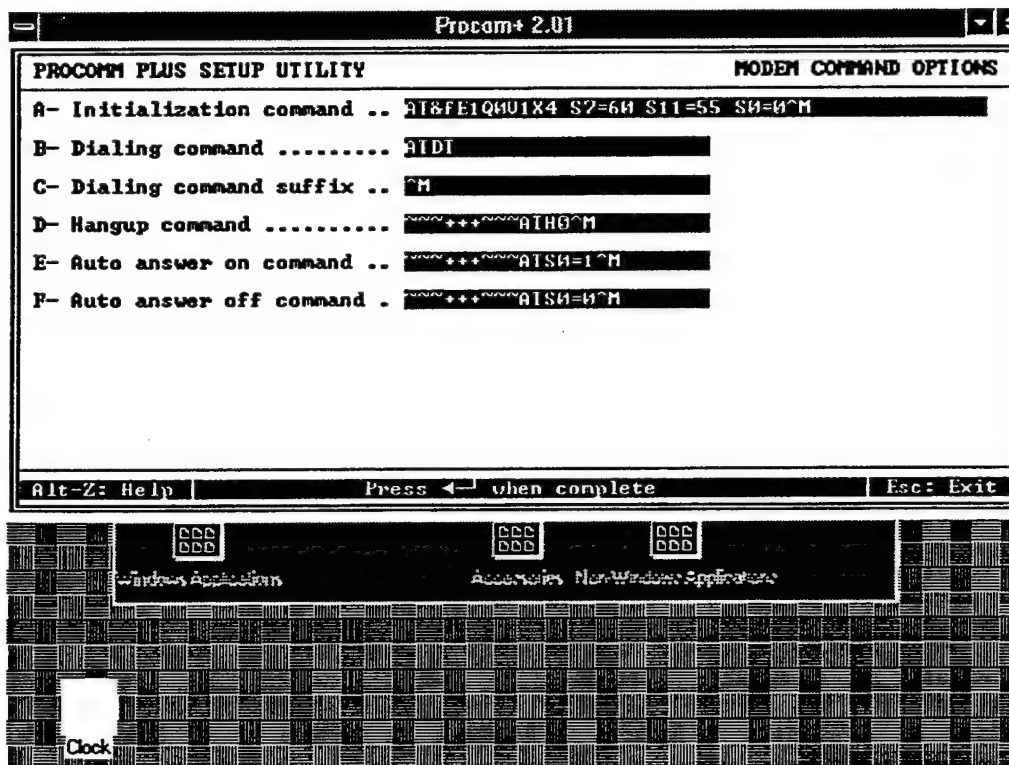


FIGURE 190. PROCOMM PLUS Setup Utility (DOS v2.01) - Modem Command Options

50.3 PROCOMM PLUS Setup Utility (DOS v2.01) - Modem General options. To reach this menu from the Setup Main menu, select the General Options submenu. The screen in figure 191 will be displayed.

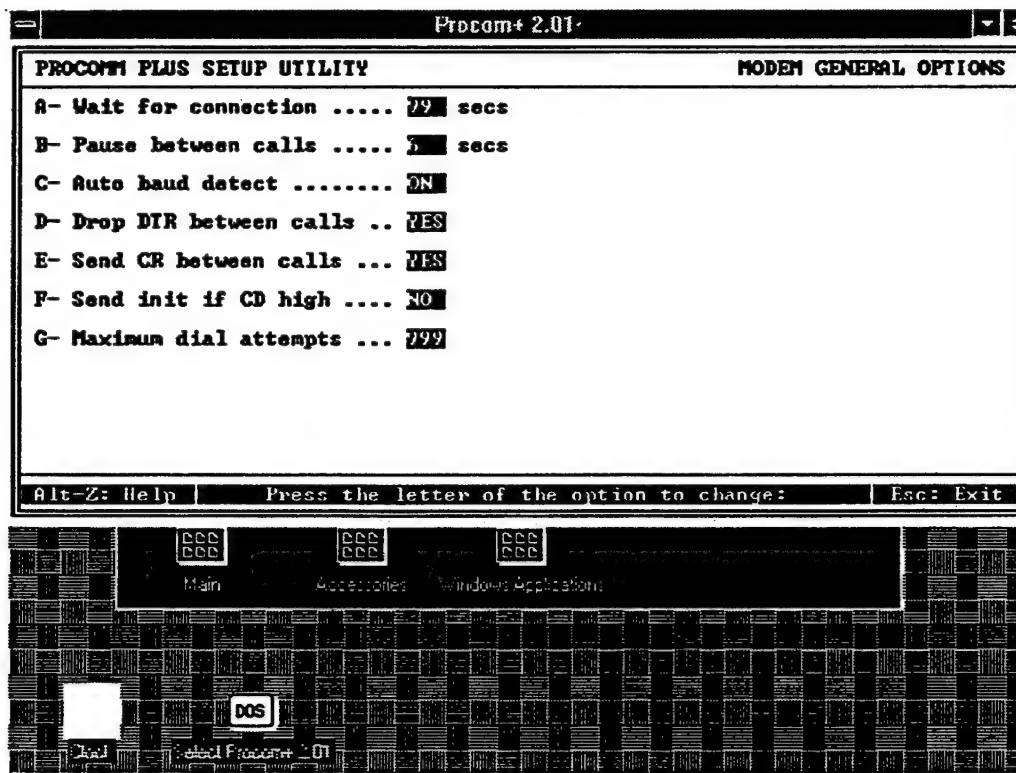


FIGURE 191. PROCOMM PLUS Setup Utility (DOS v2.01) - Modem General Options

50.4 PROCOMM PLUS Setup Utility (DOS v2.01) - ZMODEM Options. To reach this menu from the Setup Main menu, select the Protocol Options submenu. The screen in figure 192 will be displayed.

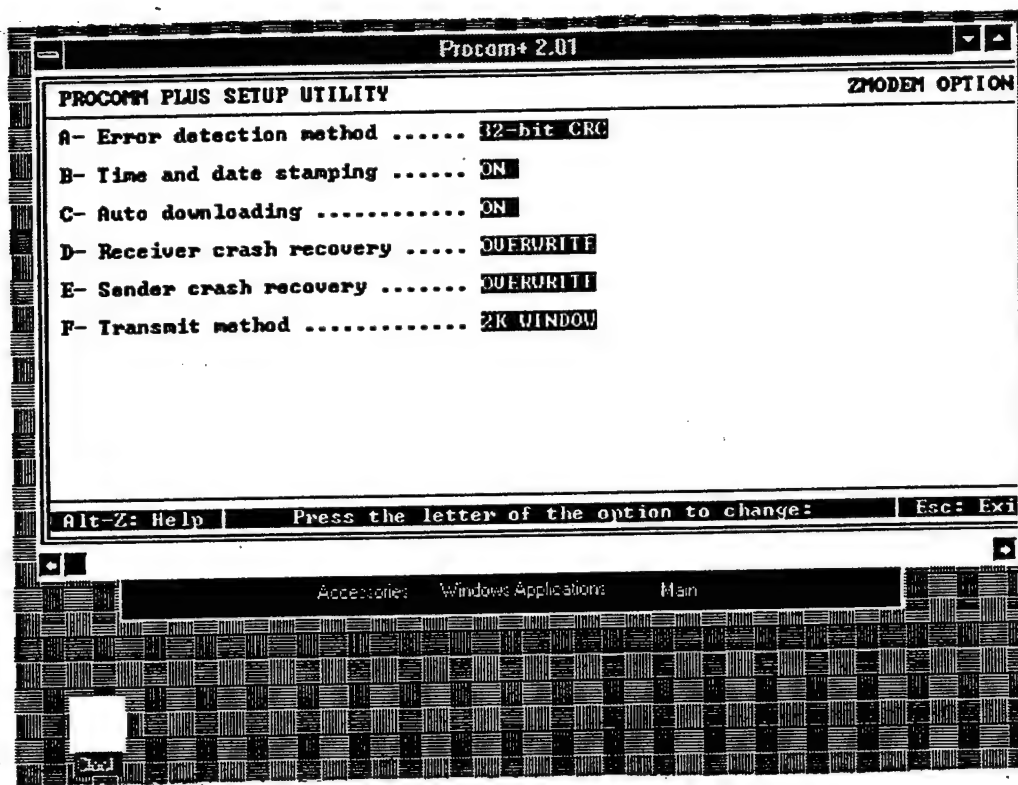


FIGURE 192. PROCOMM PLUS Setup Utility - ZMODEM Options

50.5 PROCOMM PLUS Setup Utility (Windows v2.11). The Setup Utility for the Windows version of PROCOMM PLUS is accessed from the Setup Main menu. See figure 193.

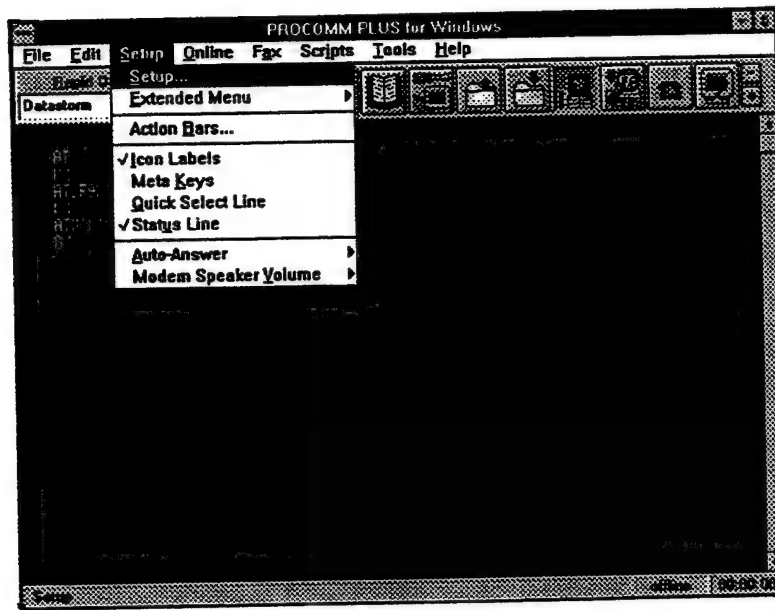


FIGURE 193. PROCOMM PLUS Setup Utility (Windows V2.11)

50.6 PROCOMM PLUS Setup Utility (Windows v2.11) - Options. To reach this dialog box select Setup from the Main menu, then select the Options button. See figure 194.

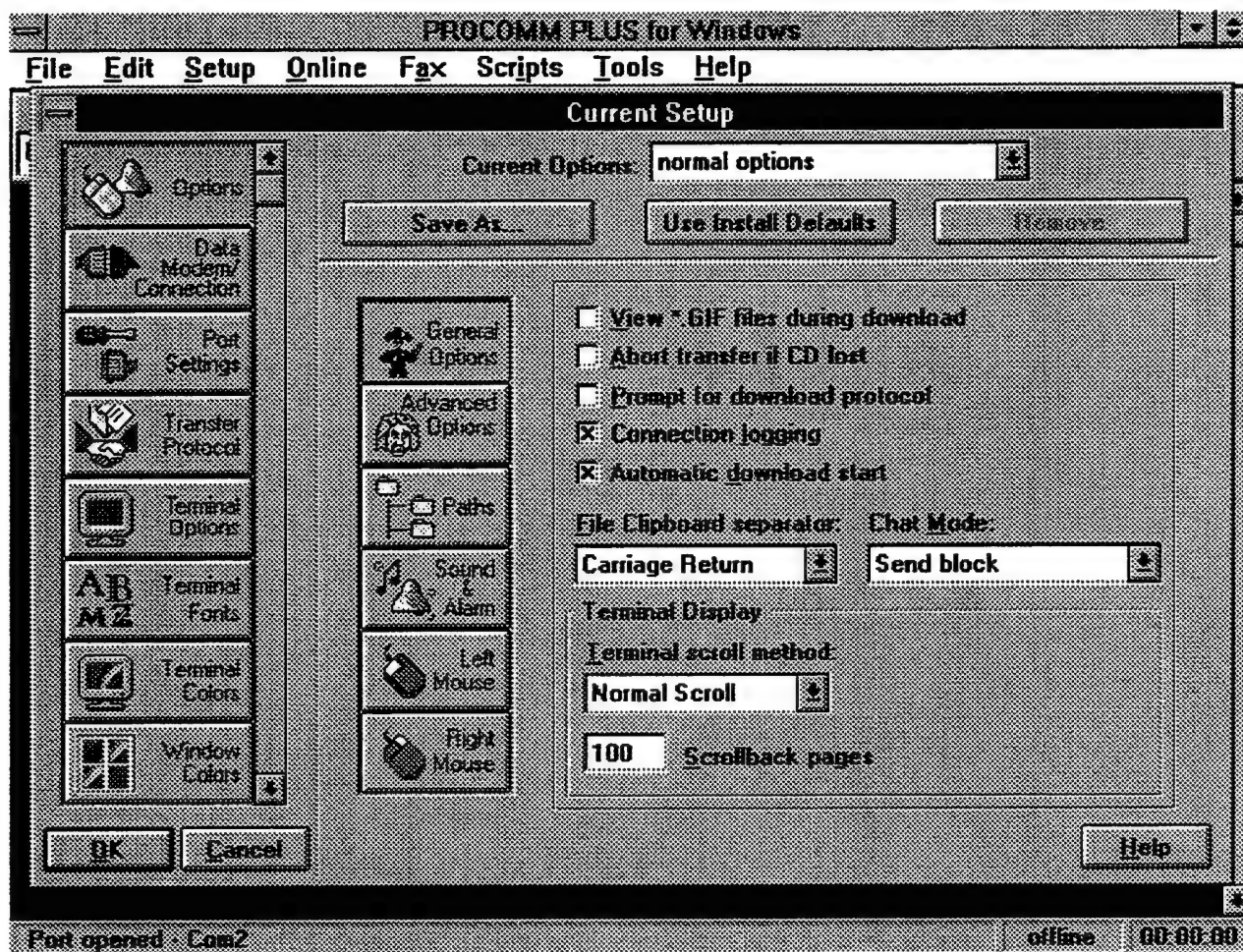


FIGURE 194. PROCOMM PLUS Setup Utility (Windows v2.11) - Options

50.7 PROCOMM PLUS Setup Utility (Windows v2.11) - Data Modem Connection. To reach this dialog box select Setup from the Main menu, then select the Data Modem Connection button. Note: The comm port selected may be different on each computer. See figure 195.

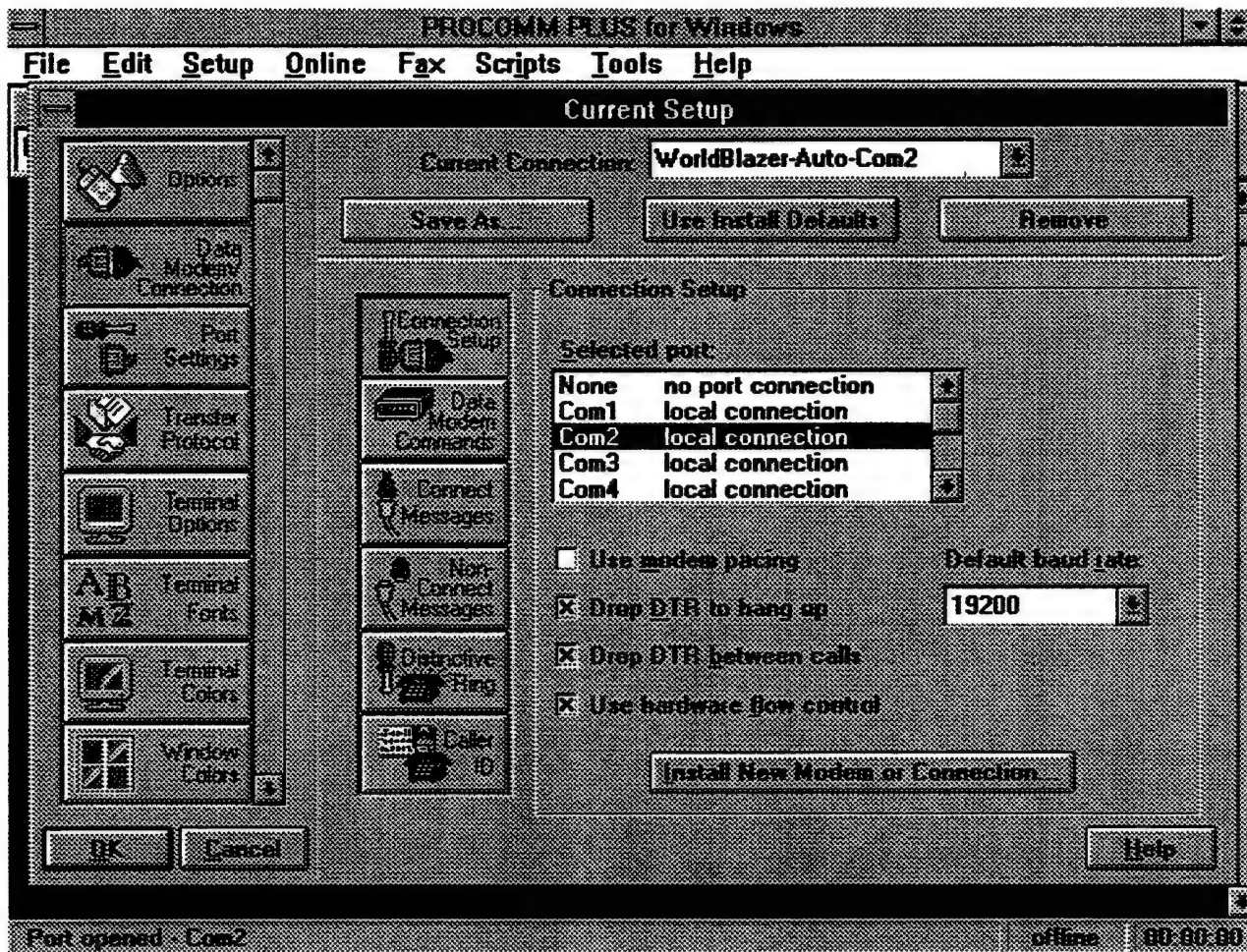


FIGURE 195. PROCOMM PLUS Setup Utility (Windows v2.11) - Data Modem Connection

50.8 PROCOMM PLUS Setup Utility (Windows v2.11) - Port Settings.
To reach this dialog box select Setup from the Main menu, then select the Port Settings button. See figure 196.

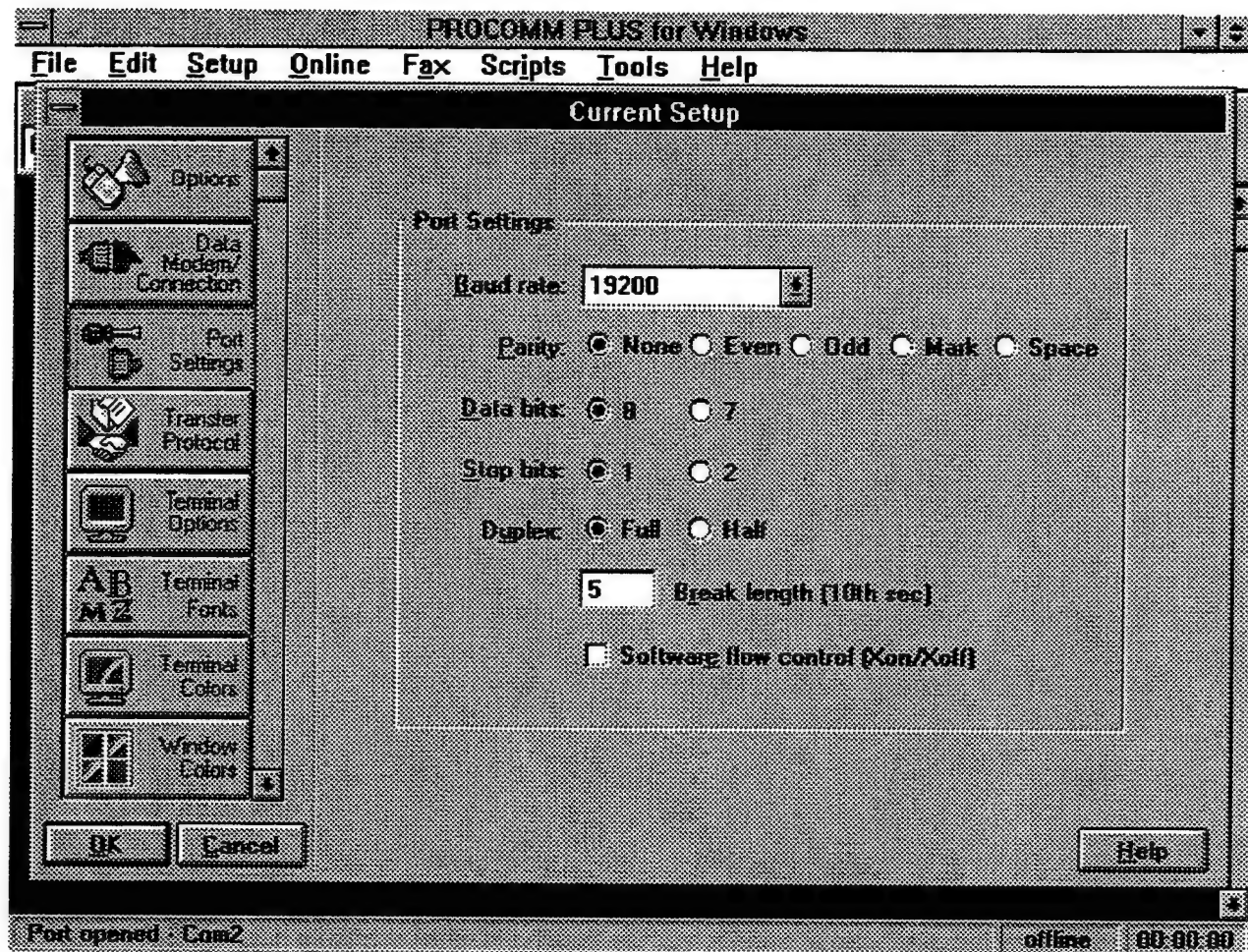


FIGURE 196. PROCOMM PLUS Setup Utility (Windows v2.11) - Port Settings

50.9 PROCOMM PLUS Setup Utility (Windows v2.11) - Transfer Protocol. To reach this dialog box select Setup from the Main menu, then select the Transfer Protocol button. See figure 197.

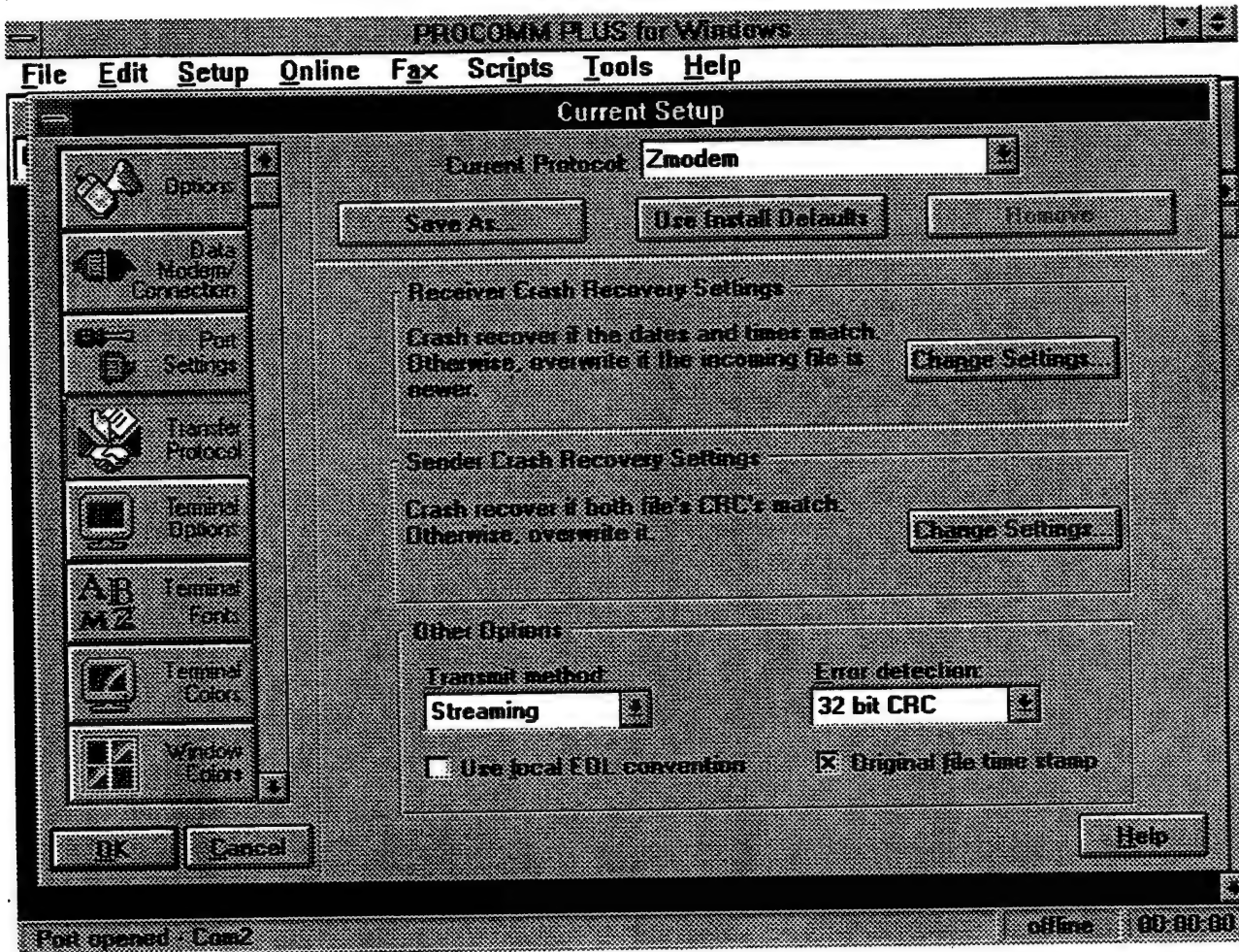


FIGURE 197. PROCOMM PLUS Setup Utility (Windows v2.11) - Transfer Protocol

50.10 PROCOMM PLUS Setup Utility (Windows v2.11) - Advanced Modem Options. To reach this dialog box select Setup from the Main menu, then select the Advanced Modem Commands button. See figure 198.

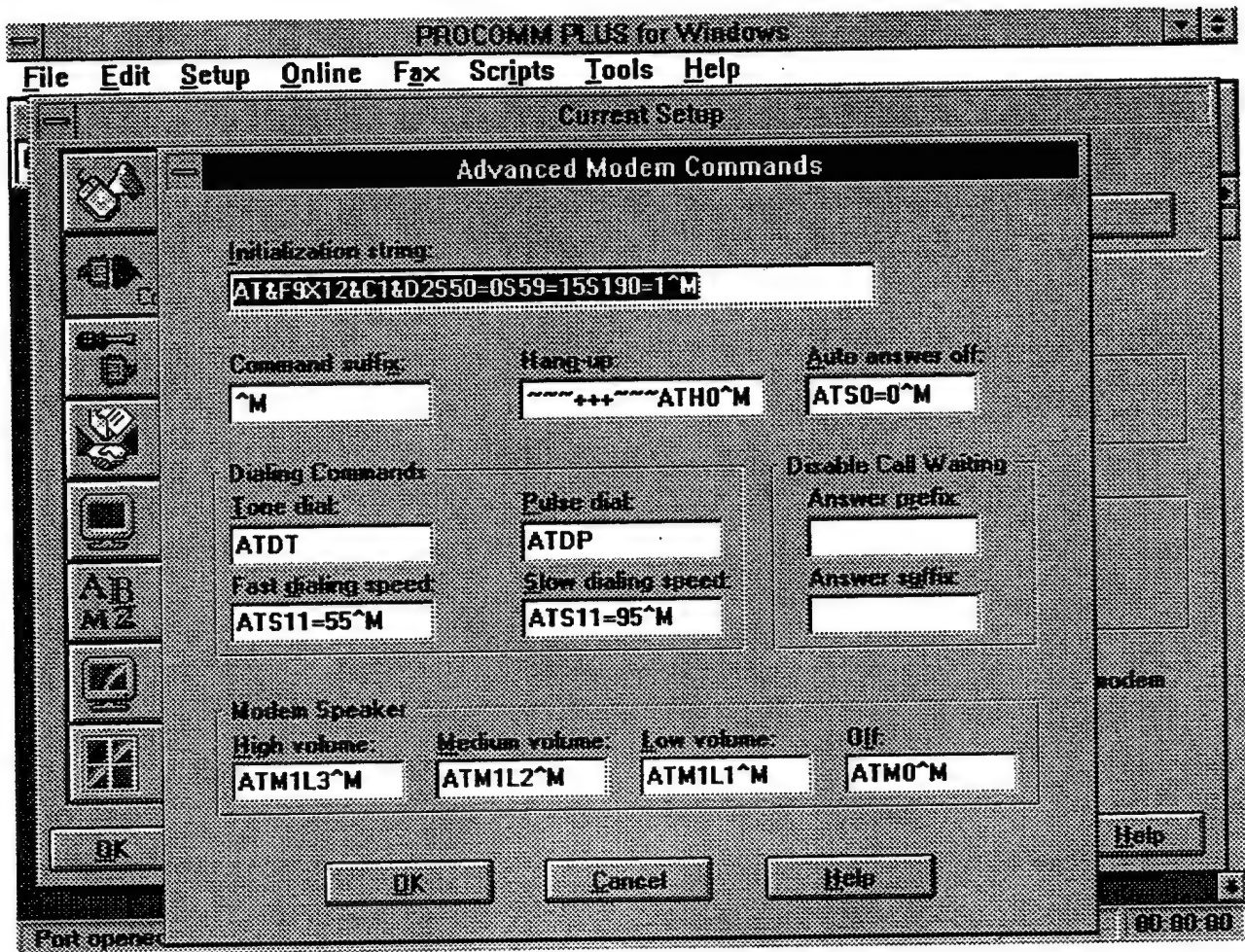


FIGURE 198. PROCOMM PLUS Setup Utility (Windows v2.11) -
Advanced Modem Commands

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APPENDIX F

OVERLAY DATA ITEM MNEMONICS

60.1 Scope. The overlay data item mnemonics are listed in this appendix.

DATA TYPE LEGEND:

G - Gridded
P - Plot
GP - Gridded and plot
- - Neither gridded nor plot

TYPE	MNEMONIC	DESCRIPTION
P	ABTM	Beginning Time of Hail
G	AGE	Snow Age
G	AIG	Average IR Grey Shade Variance
P	ALT	Altimeter Setting
-	ALTO	Altitude
P	AMX	Amount of Obscuration
G	AVG	Average Visual Grey Shade Variance
P	A2R	Hail Diameter
G	BB1 through BB4	Background Brightness (Satellites 1 - 4)
G	BDPD	Boundary Layer Dew Point Depression
G	BGF	Bogus Flag
-	BLI	Best Lifted Index
G	BRF	Best Report Flag
P	BS	Blowing Snow
P	BSN	Block Station Number
P	BUY	Buoyancy
-	BXTI	SGDB Box Time
P	CALA	Class A Call Letters
G	CAMT	Cloud Amount
-	CAPE	Convective Available Potential Energy
P	CCE	Convective Cloud E
P	CCL	Convective Condensation Level
P	CCMS	Most Significant Convective Cloud
P	CCN	Convective Cloud N
P	CCNE	Convective Cloud NE
P	CCNW	Convective Cloud NW
P	CCOV	Convective Cloud Overhead
G	CCP	Cloudy/Clear Point
P	CCS	Convective Cloud S
P	CCSE	Convective Cloud SE
P	CCSW	Convective Cloud SW

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TYPE	MNEMONIC	DESCRIPTION
P	CCT	Critical Temperature
P	CCW	Convective Cloud West
G	CDB	Cloud Base
G	CDB1	Contrail Layer Base 1
G	CDB2	Contrail Layer Base 2
G	CDT	Cloud Top
G	CDT1	Contrail Layer Top 1
G	CDT2	Contrail Layer Top 2
G	CHA	Amount of High Cloud
G	CHAS	High Cloud Amount Sensitive
-	CHH	Height of High Cloud
GP	CHT	Type of High Cloud
G	CHTS	High Cloud Type Sensitive
P	CIG	Ceiling Height
P	CITY	City Containing Severe Weather
GP	CLA	Amount of Lowest Cloud
G	CLAS	Low Cloud Amount Sensitive
P	CLDF	Convective Clouds Flag
P	CLH	Height of Lowest Cloud
P	CLLT	Station Call Letters
G	CLP	Low Cloud Persisted
GP	CLT	Type of Lowest Cloud
G	CLTS	Low Cloud Type Sensitive
G	CMA	Amount of Middle Cloud
G	CMAS	Mid-cloud Amount Sensitive
-	CMH	Height of Middle Cloud
GP	CMT	Type of Middle Cloud
G	CMTS	Mid-cloud Type Sensitive
P	CNTY	County Containing Severe Weather
P	CNWX	Convective Weather Phenomenon
P	COMP	Region Compactness
GP	CTA	Total Cloud Cover
G	CTAS	Total Cloud Amount Sensitive
GP	CTI	Cross Totals Index
-	CTIR	IR Total Cloud
G	CTP	Cloud Type
G	CTV	Visual Total Cloud
P	CWAT	Approximate Time Flag
P	CWDR	Direction of Convective Weather Phenomenon from Station
P	CWDS	Distance of Convective Weather Phenomenon from Station
P	CWMV	Direction of Movement of Convective Weather Phenomenon
-	CWTM	Time of Convective Weather Phenomenon Occurrence

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TYPE	MNEMONIC	DESCRIPTION
P	DAY	Day of Month
GP	DIR	Wind Direction
P	DISA	Class A Station to Severe Weather Distance
P	DISC	City to Severe Weather Distance
-	DIV	Divergence
GP	DPD	Dew Point Depression
-	DPT	Dew Point Temperature
G	DSRC	Data Source
G	DTM	Data Time (Julian to nearest ten minutes)
GP	DTYP	Data Type
G	DVL	D-value
G	EBT1 through EBT4	Estimated Cloud Base/Tops Layers 1 - 4
-	EH1	Energy Helicity Index
P	ELEV	Station Elevation
GP	EPT	Equivalent Potential Temperature
P	EQP	Equilibrium Pressure Level
-	ETA	Estimated Time of Arrival
G	FHS	Fog/Haze Superceded
-	FL	Flight Level
P	FOG	Fog
P	FPCP	Frozen Precipitation
P	FPWS	Frontal Passage/Wind Shift Indicator
P	FWTM	Frontal Passage/Wind Shift Time
-	GEO	Geography Indicator
G	GDP	Sunlint Data Point
P	GST	Wind Gust Speed
P	GSTD	Forecast Gust Direction
P	GST1	Gust Potential 1
P	GST2	Gust Potential 2
P	H0C	Height of 0 Celsius Level
P	H27C	Height of -27 Celsius Level
P	HAIL	Hail Present
-	HCCL	Maximum Hail Size (Method 2, CCL-based)
-	HEL	Storm Relative Helicity
GP	HGT	Height
-	HLFC	Maximum Hail Size (Method 2, LFC-based)
P	HOURL	Hour of Day
G	I	Intensity
G	ICA	Rain Flag
G	ICE	Icing
-	ICER	Icing Rate
-	ICET	Icing Type
P	ICIG	Inter Ceiling Height
G	ICW	Cloud Water

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TYPE	MNEMONIC	DESCRIPTION
G	IDD	Day/Year Group
P	IDIR	Inter Wind Direction
GP	IDN	IR Day/Night Point
G	IDP	IR Daylight Point
G	IDU	IR Data Used
G	IEF	Ice Edge Flag
P	IGST	Inter Wind Gust
G	IGV	IR Grey Shade Variance
P	ILB1 through ILB4	Icing Layer Base 1-4
P	ILT1 through ILT4	Icing Layer Top 1-4
P	ILX1 through ILX4	Icing Layer Intensity 1-4
G	IH1	19 GHz Horizontal Polarity
G	IH3	37 GHz Horizontal Polarity
G	IH8	85 GHz Horizontal Polarity
G	IHV	85 GHz Horizontal Polarity Variance
G	IIA	Ice Age
G	IIC	Ice Concentration
G	IID	Satellite ID
G	INTH	Inversion Top Height
G	INTT	Inversion Top Temperature
G	IODP	Iced Over Data Points
G	IOW	Iced Over Water
G	IRA	Rain Rate
G	ISC	EDR Surface Type
G	ISD	IR Sun/Dark Data Point
G	ISID	IR Satellite ID Minus 1
G	ISM	Soil Moisture
G	ISN	Snow Water Content
G	ISP	IR Sunside Point
P	ISPD	Inter Wind Speed
G	IST	Surface Temperature Over Land
G	ISW	Surface Wind Over Ocean
G	ITT	Hour/Minute Group
G	IV1	19 GHz Vertical Polarity
G	IV2	22 GHz Vertical Polarity
G	IV3	37 GHz Vertical Polarity
G	IV8	85 GHz Vertical Polarity
P	IVIS	Inter Visibility
G	IVV	85 GHz Vertical Polarity Variance
P	IWX1	Inter Weather 1
P	IWX2	Inter Weather 2
P	IWX3	Inter Weather 3
G	IWV	Water Vapor
P	JULH	Julian Hour
P	KIN	K-Index

TYPE	MNEMONIC	DESCRIPTION
P	LAT	Latitude
P	LCL	Lifted Condensation Level
P	LFC	Level of Free Convection
GP	LIN	Lifted Index
-	LLRT	Low Level Report Type
-	LLT(n)	Low Level Turbulence Number (n) (n = 1 to 8)
P	LON	Longitude
P	LPCP	Liquid Precipitation
-	LSI	Lid Strength Index
G	L1A through L4A	Amount of Cloud Layers 1 - 4
G	L1B through L4B	Cloud Base Layers 1 - 4
P	L1H through L4H	Cloud Top Height Layers 1 - 4
G	L1I through L4I	Best Report from IR Data Layers 1 - 4
G	L1LP through L4LP	Low Cloud Persisted Layers 1 - 4
G	L1P through L4P	Best Report from PIREP Data Layers 1 - 4
G	L1R through L4R	Best Report from RAOB Data Layers 1 - 4
G	L1S through L4S	Best Report from Surface Data Layers 1 - 4
GP	L1T through L4T	Cloud Type Layers 1 - 4
G	L1TP through L4TP	Cloud Top Layers 1 - 4
G	L1V through L4V	Best Report from Visual Data Layers 1 - 4
-	MDIV	Moisture Divergence
G	MDVL	Medium Range D-value
P	MGSD	Maximum Gust Direction
P	MGST	Maximum Wind Gust
P	MGTM	Time of Maximum Gust
P	MIN	Minute of Hour
P	MIX	Mean Mixing Ratio
P	MLB1 through MLB4	Moisture Layer Base 1-4
P	MLD1 through MLD4	Moisture Layer Average Dew Point Depression 1-4
P	MLI	Modified Lifted Index
P	MLT1 through MLT4	Moisture Layer Top 1-4
-	MOBF	Mobile Report Indicator
P	MSF	Montgomery Stream Function

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TYPE	MNEMONIC	DESCRIPTION
P	MW1	First Maximum Wind Level Pointer
P	MW2	Second Maximum Wind Level Pointer
P	MW3	Third Maximum Wind Level Pointer
P	MXR	Mixing Ratio
-	NLVL	Number Levels in Repeating Section
P	NRDS	Number of Words in Repeating Section
P	NWFX	Number of Words in Non Repeat Section
P	NWRS	Number of Words in Repeat Data Section
P	NWRW	Number of Words in Raw Data Section
P	OCTC	County Sector of Severe Weather
G	OMG	Omega (Vertical Velocity)
-	PCHG	Significant Pressure Change
P	PC3	Three Hour Pressure Change Characteristic
P	PDEC	Decode Status
G	PDU	PIREP Data Used in Best Report
P	PFLG	Significant Precipitation Flag
P	PHS	Potential Hail Size
-	PNUM	Waypoint Number
P	PP	Three Hour Pressure Change Amount
GP	PPP	Sea Level Pressure
G	PPTN	Precipitation
GP	PPW	Precipitable Water
P	PRIO	Priority
GP	PRS	Pressure
P	PTIM	Processing Time
GP	PTM	Potential Temperature
G	PTRD	Precipitation Trend
G	PTYP	Type of Precipitation
P	PWX	Past Weather
-	QLTY	Quality of Observation
G	QPF1	12 Hour Total Qualitative Precipitable Water Forecast
G	QPF2	24 Hour Total Qualitative Precipitable Water Forecast
G	QPF3	48 Hour Total Qualitative Precipitable Water Forecast
P	RAWD	Raw Data
-	RDAY	Report Day
G	RDU	RAOB Data Used in Best Report
P	RGN	AFGWC Region
G	RH	Relative Humidity
-	RHR	Report Hour
P	RIC	Bulk Richardson Number
-	RMIN	Report Minute
G	RRA	Rain Rate

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TYPE	MNEMONIC	DESCRIPTION
P	R06	Amount of 6 Hourly Precipitation
P	R24	Amount of 24 Hourly Precipitation
-	SBT	SGDB Box Times
P	SD	Direction of Ship Movement
-	SDB	SGDB Data
G	SDF	Spread Data Flag
G	SDP	Snow Data Points
G	SDU	Surface Data Used
-	SELI	SELS Lifted Index
G	SH	Specific Humidity
-	SHD	Shearing Deformation
P	SHI	Showalter Index
G	SID	SFC-IR Temperature Difference
P	SLI	Surface Based Lifted Index
P	SNIN	Snow Increase
GP	SNO	Snow Depth
G	SNOW	Snow
GP	SPD	Wind Speed
G	SRC	Source
-	SRD	Stretching Deformation
P	SST	Sea Surface Temperature
P	ST	State Containing Severe Weather
G	STF	Stream Function
P	SV	Ship Speed
GP	SWT	Severe Weather Threat Index
P	S06	Six Hourly Snowfall
-	THK	Thickness
P	TIN	Thompson Index
G	TME	Time Flag
G	TMOD	Time of Oldest Data for the Point
GP	TMP	Temperature
G	TMPE	Temperature Advection
G	TOP	Terrain Heights
G	TPA1	Temperature Analysis 1
G	TPA2	Temperature Analysis 2
G	TPC	Total Cloud Percentage
P	TP1	First Tropopause Level Pointer
P	TP2	Second Tropopause Level Pointer
P	TP3	Third Tropopause Level Pointer
-	TRBF	Turbulence Frequency
-	TRBI	Turbulence Intensity
-	TRBT	Turbulence Type
G	TRP	Tropical Points
-	TRTP	Transaction Type
P	TSTM	Thunderstorm
P	TTI	Total Totals Index

TYPE	MNEMONIC	DESCRIPTION
P	TTN	Minimum Temperature
P	TTX	Maximum Temperature
G	UBB1 through UBB4	Updated Background Brightness Points (Satellites 1 - 4)
-	ULPT	Upper Level Report Type
P	ULT(n)	Upper Level Turbulence Number (n) (n = 1 to 8)
G	UWC	U-wind Component
G	VCTP	Visual Cloud Type
G	VDN	Visual Day/Night Point
G	VDP	Visual Daylight Point
G	VDU	Visual Data Used
G	VGW	Visual Grey Shade Variance
GP	VIS	Horizontal Visibility
G	VRT	Vorticity
G	VRTA	Vorticity Advection
G	VSD	Visual Sun/Dark Point
G	VSID	Visual Satellite ID Minus 1
G	VSP	Visual Sunside Point
P	VTI	Vertical Totals Index
G	VTM	Data Valid Time
G	VWC	V-wind Component
P	WBP	Wet Bulb Potential Temperature
-	WFAC	Wind Factor
P	WFLG	Significant Winds Flag
P	WVD	Wave Direction
P	WVH	Wave Height
GP	WW1	Present Weather 1
GP	WW2	Present Weather 2
GP	WW3	Present Weather 3
P	WXFG	Convective Weather Flag
P	WZH	Wet Bulb Zero Height
P	ZPCP	Freezing Precipitation

APPENDIX G

CORPORATE LICENSE FOR PAINT SHOP PRO

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February 17, 1995

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